

EXHIBIT L

In re National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation

Expert Report of Bruce Deal Regarding the Medical Monitoring Fund

Supplementary Report: Non-Contact Sports

December 15, 2014

Contents

Background and Assignment.....	3
Qualifications	3
Summary of Findings.....	4
Approach to Modeling Fund Economics	4
Initial Class Population and Concussion Rates	4
PCS Population Size Estimates	6
CTE Population Size Estimates	6
Participation Rates (“Take Rates”)	7
Test and administrative costs	8
Financial Outputs	8
Conclusions	9
Appendix	10
Table 7. Summary of Primary Model Parameters.....	11
Bibliography	12
Committee Member CVs.....	16

Background and Assignment

Our team was asked by counsel for the NCAA athletes to analyze the anticipated costs and timing of the benefits available to athletes in the proposed settlement of the class action matter *In Re: National Collegiate Athletic Association Student-Athlete Concussion Litigation*. The settlement calls for the NCAA to provide funding of up to \$70 million to pay for the costs over 50 years associated with the settlement, which include legal, administrative, notification, travel, and medical testing costs, among others. Throughout this report, we will refer to this as the “Fund”.

We previously submitted a report to the Court on July 28, 2014, which presented our opinion as to whether it is likely that the Fund will be adequate to provide benefits to all qualifying athletes who complete the required steps and request testing. Our report focused on athletes participating in contact sports, including football, soccer, ice hockey, field hockey, basketball, lacrosse, and wrestling. This focus reflected the higher risk of concussion and sub-concussive trauma in those sports.

We were subsequently asked by counsel for the NCAA athletes to develop this supplementary report, extending our previous analysis to incorporate athletes participating in non-contact sports. Our goal was, as before, to evaluate the available data and offer our opinion as to whether it is likely that the Fund will be adequate to provide benefits to all qualifying athletes who complete the required steps and request testing.

Qualifications

Analysis Group was asked to assemble a team of professionals from various disciplines (the “Committee”) who together had the appropriate expertise to estimate whether the proposed Fund would likely be adequate to provide benefits to qualifying athletes. The assembled team, summarized briefly below (with longer biographies included in Exhibit B), have expertise in medical, statistical, economic, litigation consulting, and actuarial fields.

Dr. Robert C. Cantu – Dr. Cantu is a physician and researcher, and is Clinical Professor, Department of Neurology and Neurosurgery and Co- Founder and Clinical Diagnostics and Therapeutics Leader of the CTE Center, Boston University School of Medicine. He has particular expertise in sports-related athletic cervical spine and head injuries.

Mr. Bruce Deal – Bruce is an economist and Managing Partner with Analysis Group, Inc. He has expertise in statistical and economic analysis and has worked on dozens of class action matters over the past two decades.

Dr. Matthew Barrett – Matthew is a Vice President with Analysis Group, Inc., with expertise in healthcare matters.

Dr. Lynn Huynh – Dr. Huynh is an epidemiologist and health economist with Analysis Group, Inc. She has expertise in the statistical analysis of health outcomes.

Ms. Kimberly Shores – Kim is an actuary and Vice President with Lewis & Ellis, Inc. Actuaries and Consultants. She has expertise in healthcare and health insurance matters.

Summary of Findings

We believe that the Fund is adequate to meet its expected obligations, even with the somewhat increased volumes associated with non-contact sports. This opinion is based on modeling an appropriately conservative range of values. Specifically, the Fund is adequate under scenarios that assume conservative values for the main drivers of Fund economics: incidence and prevalence of the conditions that testing aims to detect; actual participation rates for those who have the condition; the number of tests each tested individual receives; and the cost of each test. While each corresponding scenario is more costly than that previously analysis, the Fund should still be adequate to provide for the anticipated costs.

Table 1 below provides a summary of our findings regarding Fund financial adequacy, under assumptions the Committee views as appropriately conservative, and also under sensitivity scenarios reflecting more conservative assumptions than the Committee believes likely.

Table 1. Summary of Fund Adequacy Modeling.

Sensitivity Definitions					
Parameter	Baseline	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4
Take Rate	10%	15%	15%	25%	25%
Initial Test Cost - Primary	\$1,431	\$1,431	\$1,645	\$1,431	\$1,645
Initial Test Cost – Secondary	\$2,198	\$2,198	\$2,528	\$2,198	\$2,528
Initial Test Cost – Imaging	\$2,477	\$2,477	\$2,725	\$2,477	\$2,725
Test Inflation	3.7% with in vivo CTE test in 15 years	3.7%	3.7%	3.7%	3.7%

Original Sensitivity	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate	Fund adequate
With Non Contact Sports	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate	Fund adequate

Legend	Sensitivity adjustment from Baseline
--------	--------------------------------------

Approach to Modeling Fund Economics

Our earlier report provides a detailed description of the analytical approach used. The approach to developing the extension of the model to incorporate non-contact athletes was similar. Elements specific to the non-contact population are described below.

Initial Class Population and Concussion Rates

Class population estimates are unchanged from our previous report, as are estimates of concussion rates in contact sports. Estimates of concussion rates in non-contact sports are drawn from NCAA's Injury Surveillance System (ISS), produced by counsel for NCAA for the period 2004-2012. These data are based on concussions reported by schools participating in ISS, by sport, adjusted to estimate concussions at the national level. Our modeling was based on the average estimated number of concussions across 2004-2012, across all non-contact sports. As before, the model computed annual concussions, and the proportion of those which are unresolved, to estimate the Post-Concussive Syndrome (PCS) test volumes by year.

In general, the Committee does not consider that Chronic Traumatic Encephalopathy (CTE) is a relevant risk among athletes participating in non-contact sports. CTE is clinically isolated to people who have suffered repeated head trauma over a prolonged period of time. Non-contact sports do not in general expose participants to the requisite pattern of repeated head trauma. The Committee is guided in this assessment by the existing literature on CTE as well as by the deep clinical experience of Dr. Cantu. While the overall risk of CTE is low, based on Dr. Cantu's guidance, we considered four non-contact sports to present a risk of CTE-like symptoms: gymnastics, pole-vaulting, softball and baseball. Among these, we estimated that gymnastics presents a similar level of risk to the contact sports other than football, and the other at-risk sports to present half that degree of risk. These risk estimates reflect Dr. Cantu's judgment, based on his clinical experience and knowledge of sports-related trauma. Accordingly, our model assumes that symptoms of cognitive impairment present among former gymnasts at 1.5 times the rate in the general population, and among the other at-risk athletes at 1.25 times that rate. We used a conservative estimate of the size of the pole-vaulting population (which is not broken out separately in NCAA track and field statistics; we assumed conservatively that pole-vaulters comprise 25% of outdoor track & field athletes).

Table 2 below presents information on the Class population, broken out into current and former participants in Football, other contact sports, and non-contact sports, and Table 3 presents the associated annual concussion rates (based on the ISS data). Non-contact sports represent slightly over 15% of the overall number of annual concussions.

Table 2. Mortality-adjusted Class Membership by Sport Group and Gender.

Sport Group	Men	Women	Total
Football	717,028	—	717,028
Other Contact Sports	623,126	450,330	1,073,456
Non-contact Sports	1,576,817	851,865	2,428,682
Total	2,916,971	1,302,195	4,219,166

Sources:

NCAA Sports Sponsorship and Participation Rates Report: 1981-82—2011-12.

National Vital Statistics Reports, Vol. 61, No. 3, September 24, 2012. Table 1.

Table 3. Annualized Number of Concussions in NCAA Sports, 2004-2012.

Sport Group	Annual Concussions	Concussions Per 1,000 Athletes
Football	3,255	42
Other Contact Sports	2,590	19
Non-contact Sports	1,113	4

Source:

Exhibit 70: Concussions in NCAA from 2004-2009. NCAA00007964.

National Vital Statistics Reports, Vol. 61, No. 3, September 24, 2012. Table 1.

NCAA Injury Surveillance System, 2004-2012.

NCAA Sports Sponsorship and Participation Rates Report: 1981-82—2011-12.

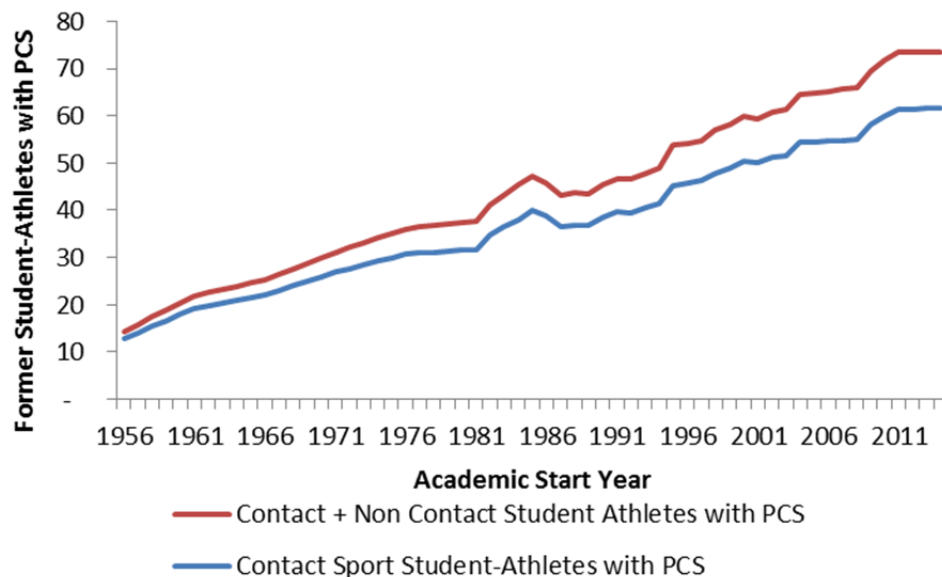
As previously, the size of each group by year and the rate of concussions by sport were used to develop the baseline estimate of the number of athletes who may have suffered concussions. These groups, in turn, were used to estimate the sizes of the PCS and CTE populations. As we noted in our previous report, although there is undoubtedly overlap between these populations (i.e., some proportion of athletes with unresolved concussions (PCS) also go on to develop long-term cognitive or behavioral problems [CTE]), we conservatively modeled them as entirely distinct populations.

PCS Population Size Estimates

For this analysis, we supplemented our estimate of the size of the PCS population by including in the model estimates of concussion rates among non-contact sports players. As before, we assumed that 25% of concussions resulting in PCS are not reported, and adjusted imputed populations upwards accordingly. Given that PCS entails pronounced symptoms, we believe this is conservative. The methodology for estimating the proportion of those concussed players who suffer long-term unresolved symptoms, and for adjusting for mortality, was unchanged.

Figure 1 below presents the resulting population of student-athletes with PCS unresolved five years or more after initial trauma, by academic start year. We include the previous estimate for contact-sports athletes only for ease of comparison to our previous report.

Figure 1. Population of student-athletes with PCS unresolved five years or more after athletic trauma, by academic start year.

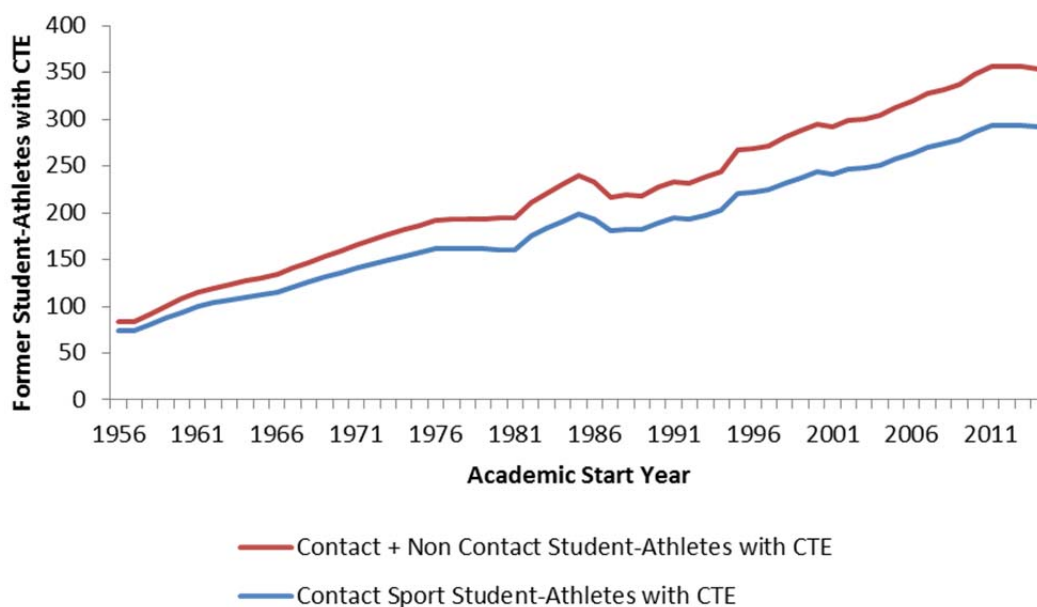


CTE Population Size Estimates

CTE population estimates followed the same methodology as our previous analysis. As noted above, while non-contact sports generally present very low risk for CTE, gymnastics, pole-vaulting, baseball, and softball may present risk of CTE-like symptoms. Risk of developing CTE-like symptoms was modeled in gymnastics at 1.5 times the risk in the general population, and in the other at-risk sports at 1.25 times the general population risk. These assumptions are likely higher than the true rates and are deliberately conservative for purposes of our financial modeling. They reflect Dr. Cantu's guidance based on his clinical experience.

Figure 2 below presents the resulting population of student-athletes with CTE, by academic start year. We include the previous estimate for contact-sports athletes only for ease of comparison to our previous report.

Figure 2. Population of student-athletes with CTE, by academic start year.



Participation Rates (“Take Rates”)

We assumed the same take rates for non-contact players as in our previous analysis. Since one of the key factors affecting take rate is the level of awareness of eligibility for benefit, we think the modeled take rates are particularly conservative: non-contact sports players can be expected to be somewhat less aware of eligibility for medical monitoring, and to see it as somewhat less relevant to themselves, than contact sports players.

Given these CPCS and CTE population sizes and take rates, the model generates test volumes and costs as outlined in Table 4 below. All costs are expressed in nominal dollars (not 2014 dollars).¹

Table 4. Baseline and Conservative Estimate of PCS and CTE Test Costs and Volume by Decade.

	Years 1-10	Years 11-20	Years 21-30	Years 31-40	Years 41-50	Total
Baseline						
PCS Test Cost	\$3,294,946	\$0	\$0	\$0	\$0	\$3,294,946
# of PCS Tests	1,072	0	0	0	0	1,072
CTE Test Cost	\$6,132,676	\$3,244,441	\$3,939,905	\$2,263,698	\$32,392	\$15,613,114
# of CTE Tests	1,511	623	652	354	7	3,147
Conservative						
PCS Test Cost	\$9,271,105	\$0	\$0	\$0	\$0	\$9,271,105
# of PCS Tests	2,680	0	0	0	0	2,680
CTE Test Cost	\$17,316,112	\$11,196,724	\$16,534,514	\$10,434,285	\$204,720	\$55,686,356
# of CTE Tests	3,779	1,557	1,629	886	18	7,869

¹ Interest earned by the Fund means that it has more than \$70M nominal dollars at its disposal over its lifetime.

Test and administrative costs

We assumed the same unit test costs as in the previous analysis. Variable administrative costs were adjusted to reflect higher application and test volumes. Full cost information is provided in Tables 5 and 6 below.

Table 5. Administrative Costs Proposed by Garretson, by Administrative Category (Baseline scenario).

Projected Cost Category	
Fixed Network Setup & Maintenance	\$2,367,479
Variable Screening & Evaluation Costs	\$315,050
Fixed Notice, Opt Outs, & Initial Calls	\$2,120,477
Variable Class Member Services	\$134,201
Fixed IT Setup and Maintenance	\$1,774,034
Total:	\$6,711,241

Financial Outputs

For the overall modeling of Fund adequacy, we used the inputs and sensitivity values discussed in our original report, supplemented as relevant with assumptions for non-contact players. Table 7 in the Appendix summarizes the key parameters.

Table 6. Summary of Fund Adequacy Modeling.

Sensitivity Definitions					
Parameter	Baseline	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4
Take Rate	10%	15%	15%	25%	25%
Initial Test Cost - Primary	\$1,431	\$1,431	\$1,645	\$1,431	\$1,645
Initial Test Cost – Secondary	\$2,198	\$2,198	\$2,528	\$2,198	\$2,528
Initial Test Cost – Imaging	\$2,477	\$2,477	\$2,725	\$2,477	\$2,725
Test Inflation	3.7% with in vivo CTE test in 15 years	3.7%	3.7%	3.7%	3.7%
Original Sensitivity	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate	Fund adequate
With Non Contact Sports	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate by ≥ \$30M	Fund adequate	Fund adequate
Legend	Sensitivity adjustment from Baseline				

As Table 7 shows, the Fund remains adequate for its purpose under Baseline assumptions, and also under the various sensitivity scenarios, which use even more conservative assumptions and are labeled as Sensitivities 1 through 4.

The Committee stresses that in its view, the Baseline assumptions are inherently conservative, and that the Fund's adequacy is likely to be even greater than that forecast here in the Baseline. The same logic is, of course, true of the Sensitivity scenarios, which are included because we are aware that various parties will be quite concerned about whether the Fund adequacy will be sufficient under assumptions that are likely to be much more conservative than those reasonably expected. We believe that, given the information

available, the sensitivity scenarios are sufficiently conservative to cover reasonably foreseeable situations. While the costs are certainly somewhat higher with the inclusion of non-contact sports, there are nonetheless sufficient funds to provide benefits to the additional athletes under the various scenarios we have modeled.

Conclusions

Based on the information available, we conclude that the Fund is very likely to be adequate for its purpose of sustaining a medical monitoring program for 50 years for former NCAA student-athletes with either PCS or CTE, including athletes participating in both contact and non-contact sports.

Dated: December 15, 2014

A handwritten signature in black ink, appearing to read "Bruce F. Deal", written in a cursive style.

Bruce F. Deal

Appendix

Table 7. Summary of Primary Model Parameters.

Parameter		Model Value
Diseased population	PCS prevalence	1% of concussions after 5 years
	CTE prevalence/incidence	Based on estimates of risk of developing symptoms of cognitive impairment, relative to the general population: <ul style="list-style-type: none"> Football players: 300% relative risk Other contact sports: 150% relative risk Gymnastics: 150% relative risk Softball, Baseball, pole vault: 125% relative risk Risk of developing cognitive impairment in the general population estimated as twice the age-stratified prevalence of dementia
	Mortality	US Vital Statistics age-specific mortality rates
Test Uptake	Take rate among those with condition	10% - 25%
	Proportion of tests given to non-diseased	Varies
Test cost	PCS test cost	\$1,431 - \$1,645
	CTE test cost	\$2,198 – 2,528
	MRI Imaging	\$2,477 – 2,725
	Inflation rate	3.7%
Admin	Fixed Network Setup & Maintenance	\$2,367,479
	Variable Screening & Evaluation Costs	\$305,180
	Fixed Notice, Opt Outs, & Initial Calls	\$2,120,477
	Variable Class Member Service Costs	\$130,053
	Fixed IT Setup and Maintenance	\$1,774,034
Fund growth	Annual return on Fund investment	3.4%

Bibliography

Exhibit A - Bibliography

-
- Alexander MP. Mild traumatic brain injury: Pathophysiology, natural history, and clinical management. *Neurology*. 1995;45(7):1253-1260.
- Bailes JE, Petraglia AL, Omalu BI, Nauman E, Talavage T. Role of subconcussion in repetitive mild traumatic brain injury. *J Neurosurg*. Nov 2013;119(5):1235-1245.
- Baugh CM, Stamm JM, Riley DO, et al. Chronic traumatic encephalopathy: neurodegeneration following repetitive concussive and subconcussive brain trauma. *Brain Imaging Behav*. Jun 2012;6(2):244-254.
- Bischkopf J, Busse A, Angermeyer MC. Mild cognitive impairment--a review of prevalence, incidence and outcome according to current approaches. *Acta Psychiatr Scand*. Dec 2002;106(6):403-414.
- Brief of Appellee, Klier v. Elf Atochem North America, Inc., 2010 WL 7124828 (5th Cir. Nov. 29, 2010)
- Broglio SP, Eckner JT, Paulson HL, Kutcher JS. Cognitive decline and aging: the role of concussive and subconcussive impacts. *Exerc Sport Sci Rev*. Jul 2012;40(3):138-144.
- Cantu RC, Guskiewicz K, Register-Mihalik JK. A retrospective clinical analysis of moderate to severe athletic concussions. *PM R*. Dec 2010;2(12):1088-1093.
- Claim Form for Subject Vehicles Not Eligible to Receive the Brake Override System, accessed July 26, 2014, http://www.toyotaelsettlement.com/pdf/v4_tmua1_claim-nonbos_011813.pdf.
- Consumer Price Index – All Urban Consumers: Medical Care. Bureau of Labor Statistics. http://data.bls.gov/timeseries/CUUR0000SAM?output_view=pct_12mths, accessed on July 26, 2014.
- Contreras, Jorge. "In the Village Square: Risk Misperception and Decisionmaking in the Regulation of Low-Level Radiation Waste," *Ecology Law Quarterly*, Vol. 19, No. 3, 1992.
- Daneshvar DH, Nowinski CJ, McKee AC, Cantu RC. The epidemiology of sport-related concussion. *Clin Sports Med*. Jan 2011;30(1):1-17, vii.
- Daneshvar DH, Riley DO, Nowinski CJ, McKee AC, Stern RA, Cantu RC. Long-term consequences: effects on normal development profile after concussion. *Phys Med Rehabil Clin N Am*. Nov 2011;22(4):683-700, ix.
- De Beaumont L, Theoret H, Mongeon D, et al. Brain function decline in healthy retired athletes who sustained their last sports concussion in early adulthood. *Brain*. Mar 2009;132(Pt 3):695-708.
- Dick, Randall et al. "National Collegiate Athletic Association Injury Surveillance System Commentaries: Introduction and Methods." *Journal of Athletic Training*. 2007;42(2):173–182.
- Estimated Probability of Competing in Athletics Beyond the High School Level. NCAA. http://www.ncaa.org/sites/default/files/Probability-of-going-pro-methodology_Update20123.pdf.
- Exhibit 70: Concussions in NCAA from 2004-2009. NCAA00007964.
- Expert report of Dr. Cantu, M.A., M.D., F.A.C.S., F.A.C.S.M.: US District Court for Northern District of Illinois Eastern Division, Case 1:11-cv-06356 Document #: 180 (In re: National Collegiate Athletic Association Student-Athlete Concussion Litigation).
- Gavett BE, Stern RA, McKee AC. Chronic traumatic encephalopathy: a potential late effect of sport-related concussive and subconcussive head trauma. *Clin Sports Med*. Jan 2011;30(1):179-188, xi.
- GDP growth (annual %). The World Bank. <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>, accessed on May 24, 2014.
- Graham JE, Rockwood K, Beattie BL, Eastwood R, Gauthier S, Tuokko H, et al. "Prevalence and severity of cognitive impairment with and without dementia in an elderly population." *Lancet*. 1997 Jun 21;349
- Guskiewicz KM, Marshall SW, Bailes J, et al. Association between Recurrent Concussion and Late-Life Cognitive Impairment in Retired Professional Football Players. *Neurosurgery*. 2005:719-726.
- Guskiewicz KM, Marshall SW, Bailes J, et al. Recurrent concussion and risk of depression in retired professional football players. *Med Sci Sports Exerc*. Jun 2007;39(6):903-909.

Exhibit A - Bibliography

-
- Guskiewicz KM, McCrea M, Marshall SW, et al. Cumulative effects associated with recurrent concussion in collegiate football players: the NCAA Concussion Study. *JAMA*. Nov 19 2003;290(19):2549-2555.
- Gysland SM, Mihalik JP, Register-Mihalik JK, Trulock SC, Shields EW, Guskiewicz KM. The relationship between subconcussive impacts and concussion history on clinical measures of neurologic function in collegiate football players. *Ann Biomed Eng*. Jan 2012;40(1):14-22.
- Harmon KG, Drezner JA, Gammons M, et al. American Medical Society for Sports Medicine position statement: concussion in sport. *Br J Sports Med*. Jan 2013;47(1):15-26.
- Hart J, Jr., Kraut MA, Womack KB, et al. Neuroimaging of cognitive dysfunction and depression in aging retired National Football League players: a cross-sectional study. *JAMA Neurol*. Mar 1 2013;70(3):326-335.
- Harvey RJ, Skelton-Robinson M, Rossor MN. The prevalence and causes of dementia in people under the age of 65 years. *J Neurol Neurosurg Psychiatry*. Sep 2003;74(9):1206-1209.
- Klier v. Elf Atochem North America, Inc., 658 F.3d 468 (5th Cir. 2011).
- Leddy JJ, Sandhu H, Sodhi V, Baker JG, Willer B. Rehabilitation of Concussion and Post-concussion Syndrome. *Sports Health*. Mar 2012;4(2):147-154.
- Mayer Brown LLP. "Do Class Actions Benefit Class Members? An Empirical Analysis of Class Actions." <http://www.classdefenseblog.com/files/2013/12/Mayer-Brown-Class-Action-Study.pdf>.
- McCrea M, Guskiewicz K, Randolph C, et al. Incidence, clinical course, and predictors of prolonged recovery time following sport-related concussion in high school and college athletes. *J Int Neuropsychol Soc*. Jan 2013;19(1):22-31.
- McCrea M, Hammeke T, Olsen G, Leo P, Guskiewicz K. "Unreported concussion in high school football players: implications for prevention." *Clinical Journal of Sport Medicine*. 2004 Jan;14(1):13-7.
- McCrory P, Meeuwisse WH, Kutcher JS, Jordan BD, Gardner A. What is the evidence for chronic concussion-related changes in retired athletes: behavioural, pathological and clinical outcomes? *Br J Sports Med*. Apr 2009;43(316):1013-1018.
- McKee AC, Cantu RC, Nowinski CJ, et al. Chronic traumatic encephalopathy in athletes: progressive tauopathy after repetitive head injury. *J Neuropathol Exp Neurol*. Jul 2009;68(7):709-735.
- National Vital Statistics Reports, Vol. 61, No. 3, September 24, 2012. Table 1.
- NCAA Sports Sponsorship and Participation Rates Report, 1981-82 - 2011-2012.
- Proposal: Program Administration Services for the NCAA Student-Athlete Concussion Injury Medical Monitoring Program. Garretson Resolution Group. July 6, 2014
- RALPH KLIER, Appellant, v. ELF ATOCHEM NORTH AMERICA, INC., Defendant – Appellee. No. 10–20305.
- Ritchie K, Artero S, Touchon J. Classification criteria for mild cognitive impairment: a population-based validation study. *Neurology*. Jan 9 2001;56(1):37-42.
- Ropeik, David. "Fear vs. Radiation: The Mismatch," New York Times, October 21, 2013. Accessed at http://www.nytimes.com/2013/10/22/opinion/fear-vs-radiation-the-mismatch.html?_r=0 on July 26, 2014.
- Rosenberg PB, Johnston D, Lyketsos CG. A clinical approach to mild cognitive impairment. *Am J Psychiatry*. Nov 2006;163(11):1884-1890.
- Savica R, Parisi JE, Wold LE, Josephs KA, Ahlskog JE. High school football and risk of neurodegeneration: a community-based study. *Mayo Clin Proc*. Apr 2012;87(4):335-340.
- Schulz MR, Marshall SW, Mueller FO, et al. Incidence and risk factors for concussion in high school athletes, North Carolina, 1996-1999. *Am J Epidemiol*. Nov 15 2004;160(10):937-944.
- Seichepine DR, Stamm JM, Daneshvar DH, et al. Profile of self-reported problems with executive functioning in college and professional football players. *J Neurotrauma*. Jul 15 2013;30(14):1299-1304.
- Stern RA, Daneshvar DH, Baugh CM, et al. Clinical presentation of chronic traumatic encephalopathy. *Neurology*. Sep 24 2013;81(13):1122-1129.

Exhibit A - Bibliography

Talavage TM, Nauman EA, Breedlove EL, et al. Functionally-detected cognitive impairment in high school football players without clinically-diagnosed concussion. *J Neurotrauma*. Feb 15 2014;31(4):327-338.

Toyota Economic Loss Website – Frequently Asked Questions, accessed July 26, 2014,
<http://toyotasettlement.com/Home/FAQ>.

Weir DR, Jackson J, Sonnega A. National Football League Player Care Foundation Study of Retired NFL Players. *Inst Soc Res*. Sept 2009.

Wilson MJ. *The Effects of Repetitive, Subconcussive Impacts on Electrophysiological Measures of Attention and Information Processing Speed*, The University of Tennessee; 2012.

Wones, Robert, et al. “Medical Monitoring: A Beneficial Remedy for Residents Living Near an Environmental Hazard Site.” *Journal of Occupational and Environmental Medicine*. 2009 December; 51(12): 1374–1383.
doi:10.1097/JOM.0b013e3181c558f1.

Committee Member CVs

CURRICULUM VITAE

ROBERT CLARK CANTU, M.A., M.D., FACS, FAANS, FICS, FACSM

NAME: Robert Clark Cantu, MA, M.D., F.A.C.S., .F.A.A.N.S., F.I.C.S., F.A.C.S.M.
DATE OF BIRTH: August 31, 1938
BIRTHPLACE: Santa Rosa, California
PRESENT POSITIONS: Chief, Neurosurgery Service, Chairman Department of Surgery
 Director, Service of Sports Medicine
Emerson Hospital, Concord, MA 01742
 Telephone: 1-978-369-1386
 Facsimile: 1-978-287-0047

Clinical Professor Neurology and Neurosurgery, Boston University School of Medicine, Co-Founder Center for The Study of Traumatic Encephalopathy (CSTE), Boston University Medical Center, Boston, MA
Senior Advisor to NFL's Head, Neck and Spine Committee
Member/Co-Chair Equipment and Rules Committee NFLPA Mackey/White TBI Committee
Adjunct Staff Department Neurosurgery, Senior Advisor Brain Injury Center Children's Hospital Boston, Boston, MA
Adjunct Professor, Exercise and Sport Science, University North Carolina, Chapel Hill, NC
Medical Director, National Center for Catastrophic Sports Injury Research, Chapel Hill, NC
Clinical Instructor in Pediatrics, Boston University School of Medicine
Neurosurgical Consultant Boston College Eagles football team
Co-Director, Neurologic Sports Injury Center at Brigham and Women's Hospital, Boston, MA
Founding Member and Chairman Medical Advisory Board Sports Legacy Institute (SLI), Waltham, MA

EDUCATION: 1960 B.A. University of California, Berkeley
 1962 M.A. University of California, San Francisco
 1963 M.D. University of California, San Francisco

PROFESSIONAL EXPERIENCE:

1963 - 1964 **Intern in Surgery, Columbia-Presbyterian Hospital, New York, NY**
 1964 - 1967 **Assistant Resident in Neurosurgery, Massachusetts General Hospital**
 1964 - 1967 **Research Fellow in Physiology, Harvard Medical School**
 1967 - 1968 **Chief Resident in Neurosurgery, Boston City Hospital**
 1967 - 1968 **Teaching Fellow in Surgery, Harvard Medical School**
 1967 - 1968 **Clinical Assistant in Neurosurgery, Massachusetts General Hospital**
 1968 - 1973 **Clinical and Research Fellow in Neurosurgery, Massachusetts General Hospital**
 1968 - 1969 **Assistant in Surgery, Harvard Medical School**
 1969 - 1973 **Instructor in Surgery, Harvard Medical School**
 1968 - 1970 **Acting Assistant Director Neurosurgery, Boston City Hospital**
 1968 - 1970 **Director of Pediatric Neurosurgery, Boston City Hospital**
 1968 - 1973 **Clinical Associate in Neurosurgery, Massachusetts General Hospital**
 1968 - **Chief of Neurosurgery Service, Emerson Hospital, Concord, MA**
 1970 - 1995 **Neurosurgical Consultant, Cutler Army Hospital, Fort Devens, MA**
 1970 - 1975 **Neurosurgical Consultant, Nashoba Community Hospital, Ayer, MA**
 1976 - 1978 **Chief of Neurosurgery Service, Nashoba Community Hospital, Ayer, MA**
 1979 - 1980 **Chairman, Department of Surgery, Emerson Hospital, Concord, MA**
 1980 - **Director, Service of Sports Medicine, Emerson Hospital, Concord, MA**
 1989 - 1991 **Chairman, Department of Surgery, Emerson Hospital, Concord, MA**
 1989 - **Medical Director, National Center for Catastrophic Sports Injury Research**
 1991 - 1993 **Board of Trustees, Emerson Hospital, Concord, MA**
 1991 - 1993 **Director, Emerson Health System, Inc.**
 1992 - 1993 **President, American College of Sports Medicine**
 1994 - **Clinical Instructor in Pediatrics, Boston University School of Medicine**

1994 - **Board of Trustees**, National Operating Committee on Standards For Athletic Equipment (NOCSAE)

1996 - **Vice-President**, National Operating Committee on Standards for Athletic Equipment (NOCSAE)

1994 - **Board of Advisors**, National Youth Sports Foundation for the Prevention of Athletic Injuries, Inc.

1998 - 2000 **Scientific Advisory Panel on Sports Medicine**, Knoll Pharmaceutical Company

1998 - 2000 **Advisory Committee for Injury Prevention**, Centers For Disease Control, Atlanta, GA

2000 - **Executive Committee Joint Section on Neurotrauma**,
Congress Neurological Surgeons/American Association Neurological Surgeons

2002 - 2005 **Editorial Board**, Journal of Athletic Training

2001 - **Co-Chairman**, NASCAR Safety Task Force, American College Sports Medicine, Indianapolis, IN

2002 - **Editorial Board**, Current Sports Medicine Reports

2002 - **Editorial Board**, American Journal of Medicine & Sports

2002 - **Neurosurgical Consultant**, Boston College Eagles football team

2003-2010 **Neurosurgical Consultant**, Boston Cannons professional Lacrosse team

2003 - **Editorial Board Principal Sports**, *Neurosurgery*

2003- **Adjunct Appointment**, Brigham and Women's Hospital, Boston, MA

2004-2010 **Chairman**, Department of Surgery, Emerson Hospital Concord, MA

2005- **Board of Directors**, Massachusetts Brain Injury Association, Westborough, MA

2007- **Medical Advisory Board of the State Boxing Commission**, Boston, MA

2007 - **Founding Member and Chairman Medical Advisory Board Sports Legacy Institute (SLI)**,
Waltham, MA

2007 - **Clinical Professor Neurosurgery**, Boston University School of Medicine, Boston, MA

2009 -2013 **Co-Director Center for The Study of Traumatic Encephalopathy (CSTE)**, Boston University
Medical Center, Boston, MA

2014- **Co-Founder Center for The Study of Traumatic Encephalopathy (CSTE)**, Boston University
Medical Center, Boston, MA

2010 - **Senior Advisor to NFL's Head, Neck and Spine Committee**

2010- **Fellow of the American Association of Neurological Surgeons (FAANS)**

2010 - **Member/Co-Chair Equipment and Rules Committee**, NFLPA Mackey/White TBI Committee

2010- **Fellow American Association Neurological Surgeons**

2012 - **Adjunct Staff Department Neurosurgery, Senior Advisor Brain Injury Center Children's
Hospital Boston**, Boston, MA

2014 - **International Rugby Board Advisory Group – United Kingdom**

2014- **Co-Founder Center for The Study of Traumatic Encephalopathy (CSTE)**, Boston University
Medical Center, Boston, MA

SERVICE TO PROFESSIONAL SOCIETIES

NATIONAL SOCIETIES:

American College of Sports Medicine	1978 -
Board of Trustees	1984 - 1994
	1996 - 1999
Ambassador	1988 –
President-elect:	American College of Sports Medicine, 1991 - 1992
President:	American College of Sports Medicine, 1992 - 1993
Treasurer:	American College of Sports Medicine, 1996 – 1999
Associate Editor:	<u>Medicine and Science in Sports and Exercise</u> , 1986 - 1998
Associate Editor:	<u>Exercise and Sports Science Reviews</u> , 1986 - 2000
Editorial Board:	<u>The Physician and Sportsmedicine</u> , 1989 -
Editorial Board:	<u>Clinical Journal of Sports Medicine</u> , 1991 -
Editorial Board:	<u>Journal Athletic Training</u> , 2000 – 2005

Editorial Board: Neurosurgery: Sports Section

2003 –

American Association of Neurological Surgeons

Chairman, Sports Medicine Section, 1985 – 1988

American Medical Tennis Association

Board of Directors, 1984 – 1987

REGIONAL SOCIETIES:

New England Chapter, American College of Sports Medicine

Executive Committee: 1980 - 1982

President: 1981 - 1982

Board of Trustees: 1982 - (**Chairman**, 1983)

PROFESSIONAL CONSULTANT:

1983 - 1985 Advisory editor in sports medicine to The Collamore Press, Lexington, MA
 1984 - Technical advisor, Milner-Fenwick Company, Baltimore, MD
 1985 - Consultant, United States of America Amateur Boxing Federation, Inc.
 1986 - Consultant, Exercycle Corporation, Woonsocket, RI
 1986 - 1988 Consultant, Reebok Corporation, Avon, MA
 1988 - 1990 Consultant, Nautilus Company, Independence, VA
 1994 - Athletic Advisory Board, Hartwell Medical
 1994 - 2000 Consultant, NordicTrack, Chaska, MN
 1998 - 2000 Scientific Advisory Panel on Sports Medicine. Knoll Pharmaceutical Co.
 2000- Executive Committee Joint Section on Neurotrauma, Congress Neurological Surgeons/American Association Neurological Surgeons
 2002-2005 Editorial Board, Journal of Athletic Training
 2002- Neurosurgical Consultant to Boston College Eagles football team
 2003-2010 Neurosurgical Consultant to Boston Cannons professional Lacrosse team
 2003 Principal – Sports Section, *Neurosurgery*
 2003- NOCSAE Consultant to the NFL Concussion Committee
 2004- Board of Directors, Massachusetts Brain Injury Association, Westborough, MA
 2007- Medical Advisory Board of the State Boxing Commission, Massachusetts
 2007 - Founding Member and Chairman Medical Advisory Board Sports Legacy Institute, Waltham, MA
 2014 - International Rugby Board Advisory Board – United Kingdom

FELLOWSHIPS:

1975 **Fellow**, American College of Surgeons
 1981 **Fellow**, International College of Surgeons
 1981 **Fellow**, American College of Sports Medicine
 2010 **Fellow**, American Association Neurological Surgeons (FAANS)

HONORS AND AWARDS:

California Scholastic Federation Award
 Kraft Award (top twenty freshmen), University of California, Berkeley, 1956-57
 Borden Research Award, 1963
 Microcirculatory Travel Award, 1963
 Candidate Group Prize, Massachusetts Chapter, American College of Surgeons, 1969
 Honor Award in Medicine, New England Chapter, American College of Sports Medicine, 1987
 Distinguished Service Award, American Association for the Improvement of Boxing, 1991
 Rocky Marciano Medical Award, American Association for the Improvement of Boxing, 1995

Citation Award, American College of Sports Medicine, 1996
Special Citation Award, New England Chapter, American College Sports Medicine, 2002
Educator of the Year Award from the American Association of Professional Ringside Physicians 2004
Dr. Ernst Jokl Sports Medicine Award 2010 from The United States Sports Academy 2010
Community Clinician of the Year 2013 from The Middlesex Central District Medical Society and The Massachusetts Medical Society
ETHOS Award, Institute for Sports Law and Ethics, University of Santa Clara 2014

LICENSES TO PRACTICE MEDICINE:

By written examination in California, 1963 #: 21223
By written examination in Massachusetts, 1964 #: 28386

SPECIALTY BOARD CERTIFICATION:

American Board of Neurological Surgery, 1970

MEMBERSHIPS:

Social Fraternities: Phi Kappa Psi
 Nu Sigma Nu (President, Phi Chapter, 1962-1963)
Scholastic Fraternities California Scholastic Federation
 Tower and Flame
 Phi Eta Sigma
 Phi Beta Kappa (junior year)
 Alpha Omega Alpha

PROFESSIONAL SOCIETIES:

American Academy of Sports Physicians
American Association for the Advancement of Science
American Association for the Improvement of Boxing
American Association of Neurological Surgeons
American Association of Professional Ringside Physicians
American Association for the History of Medicine
American College of Angiography
American College of Sports Medicine
American College of Surgeons
American Federation of Clinical Research
American Heart Association
American Medical Association
American Physiology Society
American Society for Pharmacology and Experimental Biology
California (Medical) Alumni Society
Congress of Neurological Surgeons
International College of Surgeons
International Society for Pediatric Neurosurgery
Massachusetts Medical Benevolent Society
Massachusetts Medical Society
Microcirculatory Society
New England Neurosurgical Society
North American Spine Society
Presbyterian Hospital Alumni Society
Society of Military Surgeons
Society of Neuroscience

BACKGROUND SUMMARY

Currently Dr. Cantu's professional responsibilities include those of Clinical Professor of Neurology and Neurosurgery and Co-Director [Center for the Study of Traumatic Encephalopathy, Boston University School of Medicine](#), Boston, MA; Founding member and Medical Director [Sports Legacy Institute](#), Waltham, MA; Adjunct Professor Exercise and Sport Science and Medical Director [National Center for Catastrophic Sports Injury Research, University of North Carolina](#), Chapel Hill, NC; Co-Director, [Neurologic Sports Injury Center, Brigham and Women's Hospital](#), Adjunct Staff Department Neurosurgery and Senior Advisor Brain Injury Center [Children's Hospital Boston](#), Boston, MA; Boston, Chief of Neurosurgery Service, Associate Chairman Department of Surgery, and Director of Sports Medicine at [Emerson Hospital](#) in Concord, Massachusetts, Neurosurgical Consultant Boston Eagles football team. He has authored over 392 scientific publications, including 31 books on neurology and sports medicine, in addition to numerous book chapters, peer-reviewed papers, abstracts and free communications, and educational videos. He has served as associate editor of [Medicine and Science in Sports and Exercise](#) and [Exercise and Sports Science Review](#), and on the editorial board of [The Physician and Sports Medicine](#), [Clinical Journal of Sports Medicine](#), and [Journal of Athletic Training](#). In 2003 Dr. Cantu became the section head for the Sports Medicine Section of *Neurosurgery*.

He grew up in the northern California community of Santa Rosa. In 1960, he received his B.A. degree from the University of California Berkley where he pitched on the varsity baseball team. Jointly, in medical school and graduate school, he received his M.A. degree in endocrinology in 1962, and in 1963, his M.D. from the University of California Medical School in San Francisco. Following a surgical internship at Columbia-Presbyterian Hospital in New York City in 1963-1964, he began a neurosurgery residency at Massachusetts General Hospital in Boston, and simultaneous position of research fellow in physiology at Harvard Medical School. Upon completion of his residency in 1968, he joined the neurosurgery staff at MGH, where his practice and laboratory were located, while assuming the position of acting assistant director of neurosurgery and director of pediatric neurosurgery at Boston City Hospital. After five years of academic neurosurgery with Harvard Hospitals, Dr. Cantu entered private neurosurgery practice at the suburban Emerson Hospital in Concord, Massachusetts where he currently serves as Chairman Department of Surgery, Chief Neurosurgical Service and Director Service of Sports Medicine.

In addition to his professional responsibilities, Dr. Cantu is medical director of the [National Center for Catastrophic Sports Injury Research, located in Chapel Hill, North Carolina](#), an ongoing registry instituted in 1982 for data collection and analysis of spine and head injuries. From this data important contributions have been made in sport safety and accident reduction; most notably football rule changes concerning tackling and blocking with the head, the establishment of football helmet standards, improved on-the-field medical care, and coaching techniques. He also serves on the Board of Trustees as Vice President and chairman of scientific committee of [NOCSAE](#) (National Operating Committee on Standards for Athletic Equipment).

Dr. Cantu also is Co-Director of the Neurological Sports Injury Center at Brigham and Women's Hospital in Boston, MA.

For many years, Dr. Cantu has been actively involved with the American College of Sports Medicine (ACSM), the oldest and largest sports medicine and exercise science organization in the world, and served as President of this organization from 1992 to 1993 and served as treasurer from 1996 to 1999. Dr. Cantu has received recognition from the college being named as the recipient of their Citation Award in 1996. This year Dr. Cantu gave the organizations most prestigious J.B. Dill Lecture on the History of Concussions at ACSM's annual meeting in New Orleans.

As spokesperson for ACSM, he has participated in nationally televised sports programs speaking on diverse sports issues and has appeared on "Larry King Live" discussing the Chris Benoit case in conjunction with Chris' father Michael Benoit, "ESPN Outside the Lines" discussing the Chris Benoit case, Canadian Television also discussing the Chris Benoit case as well as other media avenues, "NFL Today" with Bryant Gumbel and Terry Bradshaw, discussing the effect of artificial turf on cervical spine injuries, and football injuries on CNBC's "The Real Story". He has been interviewed for World News Tonight with Peter Jennings, CBS Evening News with Katie Couric, Dan Rather, and NBC Evening News with Brian Williams regarding gender and concussion incidence. He has been a spokesperson for ACSM on NASCAR deaths and safety issues surrounding NASCAR and has been interviewed for "World News Tonight" with Peter Jennings regarding NASCAR deaths and specifically Dale Earnhardt's death as well as safety issues in auto racing. Dr. Cantu also appeared on "ABC World News Tonight" with Bob Jamison regarding the Korey Stringer death from heat stroke as well as WGBH Channel 2 in Boston, NPR radio interview, WEEI Boston radio interview and ESPN's "Outside the Lines", all discussing the issue of heat stroke. He has discussed the health issues of football players with Mary Carillo on HBO's Inside the NFL and has done an interview regarding sports related injuries in cheerleading on Inside the NFL. Dr. Cantu has also been interviewed by Bob Costas on HBO's Inside the NFL regarding Concussion in Professional Sports and was the key speaker on Designer Steroids for Comcast Cable Network. Dr. Cantu is currently serving as the Consultant for NOCSAE to the NFL Concussion

Committee and Co-Chairman for the NASCAR Safety Task Force with ACSM. Dr. Cantu has done safety presentations for drivers and teams of CART as well as NASCAR. Dr. Cantu has been interviewed by ESPN Outside the Lines Tom Friend regarding Baby Joe Mesi and his return to boxing after a controversial subdural hematoma. Dr. Cantu continues to be an outspoken advocate for the sport of boxing and continues to advocate for the safety of that sport and its participants. Recently Dr. Cantu has done several interviews on Concussion in the NFL with ESPN, HBO and the Boston area news channels. Dr. Cantu has recently been involved with the NFL meeting in NYC regarding concussions and guidelines for concussions with Roger Goodell. Most recently Dr. Cantu has appeared on Brian Williams Rock Center with Kate Snow discussing concussion issues.

As an author of numerous books as well as articles on sports medicine topics, he is frequently invited to participate in symposiums addressing a wide range of sports medicine topics including anabolic steroid use; eating disorders in female athletes; acute and chronic brain injury in boxing; and on-the-field evaluation and medical management and return to play guidelines following head and spine sports injuries. *Dr. Cantu's most recent book "Concussion and Our Kids" was released September 19, 2012 from Houghton Mifflin Harcourt.*

He has served as a consultant to many scholastic and professional athletes on the return to collision sports after a head injury or spine injury, and is active speaking on a variety of health-related interests including the overall benefits of moderate regular exercise; the special health and exercise concerns of senior citizens; and sports safety issues with high school athletic trainers, coaches, students and parents. He currently serves as the Neurosurgical consultant to the Boston College Eagles Football team and served as the Neurosurgical consultant to the Boston Cannons professional Lacrosse team from 2003 to 2010. He recently was asked by the NFL Commissioner Roger Goodell to give two presentations at the NFL's concussion meeting in Chicago.

Practicing what he preaches, Dr. Cantu has enjoyed long-distance running since 1967. An official entrant in many Boston Marathons, he has also enjoyed the "long runs" at Newport and New York City,. Besides running, Dr. Cantu is a serious tennis player, for many years ranked in the men's senior singles in New England (NELTA) region. Dr. Cantu has two children, Rob and Elizabeth and a grandchild Jeremy and lives with his wife Tina in Lincoln, Massachusetts.

PUBLICATIONS: 392

BOOK CHAPTERS	90
REFEREED ARTICLES	176
BOOKS	32
NON-REFEREED ARTICLES	46
ABSTRACTS AND FREE COMMUNICATIONS	29
SPORTS MEDICINE EDUCATIONAL VIDEOS	15
IN PRESS	4

BOOK CHAPTERS

1. **Cantu RC**: The treatment and prevention of athletic low back injuries, in Vinger FP, Hoerner EF (ed): Sports Injuries: the Unthwarted Epidemic, Littleton, PSG Publishing, Inc, 1980.
2. **Cantu RC**: Nutrition and endurance exercise: Facts, myths, speculations, in **Cantu RC** (ed): Health Maintenance Through Physical Conditioning, Littleton, Wright-PSG Publishing, Inc, 1981.
3. **Cantu RC**: The prevention of athletic head and spine injuries, in **Cantu RC** (ed): Health Maintenance Through Physical Conditioning, Littleton, Wright-PSG Publishing, Inc, 1981.
4. **Cantu RC**, Day RG: Corporate fitness centers, in **Cantu RC** (ed): The Exercising Adult, Lexington, The Collamore Press, D.C. Heath & Co, 1981.
5. **Cantu RC**: Head and cervical spine injuries, in **Cantu RC** (ed): The Exercising Adult, Lexington, The Collamore Press, D.C. Heath & Co, 1981.
6. **Cantu RC**: Lumbar spine injuries, in **Cantu RC** (ed): The Exercising Adult, Lexington, The Collamore Press, D.C. Heath & Co, 1981.
7. **Cantu RC**: Conditioning the cardiovascular system, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
8. **Cantu RC**: Nutrition for sports, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
9. **Cantu RC**: Exercise and life-style modifications in primary care practice, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
10. **Cantu RC**: Writing a precise aerobic exercise prescription, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
11. **Cantu RC**: Sports injuries in young athletes, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
12. **Cantu RC**: The sports medicine bag of the primary care team physician, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
13. **Cantu RC**: Head and neck injuries, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
14. **Cantu RC**: Lumbar spine injuries, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
15. **Cantu RC**: Torso and genitourinary tract injuries, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
16. **Cantu RC**: Upper extremity injuries, in **Cantu RC** (ed): Sports Medicine in Primary Care, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
17. **Cantu RC**: Sports and the handicapped child, in Micheli LJ (ed): Sports Injuries in the Child and Adolescent, Boston, Little Brown & Co, 1982.
18. **Cantu RC**: Techniques of spinal fusion, in Schmidek HH, Sweet W (ed): Current Techniques in Operative Neurosurgery, Orlando, Grune & Stratton, Inc, 1982.

19. **Cantu RC**: Epidemiology, biomechanics, and diagnoses of head and cervical spine injuries, in **Cantu RC** (ed): Sports Medicine-Sports Science: Bridging the Gap, Lexington, The Collamore Press, D.C. Heath & Co, 1982.
20. **Cantu RC**: Intracranial injuries, in Butler RB, Moore MJ, **Cantu RC** (ed): Neurology in Primary Care, New York, MacMillan Publishing Co, 1985.
21. **Cantu RC**: Cervical, thoracic and lumbar spine injuries, in Butler RB, Moore MJ, **Cantu RC** (ed): Neurology in Primary Care, New York, MacMillan Publishing Co, 1985.
22. **Cantu RC**: Intervertebral disc disease: Acute rupture, spondylosis and spinal stenosis, in Bulter RB, Moore MJ, **Cantu RC** (ed): Neurology in Primary Care, New York, MacMillan Publishing Co, 1985.
23. **Cantu RC**: Head and spine injuries in the young athlete, in Micheli LJ (ed): Clinics in Sports Medicine: Injuries in the Young Athlete, Philadelphia, W.B. Saunders Co, 1988.
24. **Cantu RC**: Techniques of fusion in the cervical, thoracic, and lumbar spine, in Schmidek HH, Sweet WH (ed): Operative Neurosurgical Techniques: Indications, Methods and Results, ed 2. Orlando, Grune & Stratton, Inc, 1988.
25. **Cantu RC**: Head injury in sports, in Grana WA, Lombardo JA (ed): Advances in Sports Medicine and Fitness, vol 2. Chicago, Year Book Medical Publishers, 1989.
26. **Cantu RC**: Head and neck injuries, in Mueller FO, Ryan A (ed): The Sports Medicine Team and Athletic Injury Prevention, Philadelphia, F.A. Davis Co, 1990.
27. **Cantu RC**: Osseous fusion of the cervical, thoracic, and lumbar spine with primary and metastatic spine tumors, in Schmidek HH, Schiller AL, Rosenthal DI, Sundaresan N (ed): Tumors of the Spine: Diagnosis and Clinical Management, Philadelphia, W.B. Saunders Company, 1990.
28. **Cantu RC**: Criteria for return to competition following a closed head injury, in Torg JS (ed): Athletic Injuries to the Head, Neck, and Face, ed 2. Chicago, Year Book Medical Publishers, 1991.
29. **Cantu RC**: Position statement of the American Medical Association on boxing: Analysis and perspective, in Torg JS (ed): Athletic Injuries to the Head, Neck, and Face, ed 2. Chicago, Year Book Medical Publishers, 1991.
30. **Cantu RC**: The nervous system, in Strauss RH (ed): Sports Medicine, ed 2. Philadelphia, W.B. Saunders Co, 1991.
31. **Cantu RC**: Minor head injuries in sports, in Dymont PG (ed): Adolescent Medicine: State of the Art Reviews, 2(1). Philadelphia, Hanley & Belfus, Inc, 1991.
32. Mueller FO, **Cantu RC**: The annual survey of catastrophic football injuries: 1977-1988, in Holloszy JO (ed): Exercise and Sport Sciences Reviews, vol 19. Baltimore, Williams & Wilkins, 1991.
33. **Cantu RC**: Transportation/immobilization: Criteria for return to competition after head or cervical spine injury, in **Cantu RC**, Micheli LJ (ed): American College of Sports Medicine: Guidelines for the Team Physician, Philadelphia, Lea & Febiger, 1991.
34. Young JE, **Cantu RC**: Life-threatening emergencies, in **Cantu RC**, Micheli LJ (ed): American College of Sports Medicine: Guidelines for the Team Physician, Philadelphia, Lea & Febiger, 1991.
35. **Cantu RC**: Criteria for return to competition after head or cervical spine injury, in **Cantu RC**, Micheli LJ (ed): American College of Sports Medicine: Guidelines for the Team Physician, Philadelphia, Lea & Febiger, 1991.
36. Mueller FO, **Cantu RC**: Annual survey of catastrophic football injuries: 1977-1992, in Hoerner EF (ed): Head and Neck Injuries in Sports, Philadelphia, ASTM, 1994.

37. **Cantu RC:** How to make professional boxing safer: the American Medical Association controversy, in Hoerner EF (ed): Head and Neck Injuries in Sports. Philadelphia, ASTM, 1994.
38. **Cantu RC:** Medicine's stand on boxing in the 20th century, in **Cantu RC** (ed): Boxing and Medicine. Champaign, Human Kinetics, 1995.
39. **Cantu RC:** Brain injuries, in **Cantu RC** (ed): Boxing and Medicine. Champaign, Human Kinetics, 1995.
40. **Cantu RC:** How to make professional boxing safer, in **Cantu RC** (ed): Boxing and Medicine. Champaign, Human Kinetics, 1995.
41. **Cantu RC:** Sports medicine aspects of cervical spinal stenosis, in Exercise and Sports Science Reviews, vol 23. Baltimore, Williams & Wilkins, 1995.
42. **Cantu RC:** Head and spine injuries in youth sports, in Micheli LJ (ed): Clinics in Sports Medicine, vol 14(3). Philadelphia, W.B. Saunders Company, 1995.
43. **Cantu RC:** Head and neck injuries, in Kibler WB (ed): American College of Sports Medicine: Handbook for the Team Physician. Baltimore, Williams & Wilkins, 1996.
44. **Cantu RC:** Diagnosis and management of concussion, in Sallis RE, Massimino F (ed): American College of Sports Medicine: Essentials of Sports Medicine. St. Louis, Mosby Year-Book, 1996.
45. **Cantu RC:** Diagnosis and management of concussion, in Sallis RE, Allen ME, Massimino F (ed): American College of Sports Medicine: Sports Medicine Review. St. Louis, Mosby Year-Book, 1996.
46. Cantu RV, **Cantu RC**, Wilberger JE: Sports-related spinal cord injury, in Narayan RK, Wilberger JE, Povlishnock JT (ed): Neurotrauma. New York, McGraw-Hill, 1996.
47. **Cantu RC:** Guidelines for return to contact sports in Hoerner EF (ed): Safety in American Football. West Conshohocken, ASTM, 1996.
48. **Cantu RC:** Catastrophic head and spine injuries, in Mueller FO, **Cantu RC**, Van Camp SP (ed): Catastrophic Injuries in High School and College Sports. Champaign, Human Kinetics, 1996.
49. **Cantu RC:** Second Impact Syndrome, in **Cantu RC** (ed): Clinics In Sports Medicine: Neurologic Athletic Head and Neck Injuries. Philadelphia, W.B. Saunders Company, 1998.
50. **Cantu RC:** Return to Play Guidelines After a Head Injury, in **Cantu RC** (ed): Clinics In Sports Medicine: Neurologic Athletic Head and Neck Injuries. Philadelphia, W.B. Saunders Company, 1998.
51. **Cantu RC:** The Cervical Spinal Stenosis Controversy, in **Cantu RC** (ed): Clinics in Sports Medicine: Neurologic Athletic Head and Neck Injuries. Philadelphia, W.B. Saunders Company, 1998.
52. **Cantu RC**, Bailes JE, Wilberger JE: Guidelines for Return to Contact or Collision Sport After a Cervical Spine Injury, in **Cantu RC** (ed): Clinics In Sports Medicine: Neurologic Athletic Head and Neck Injuries. Philadelphia, W.B. Saunders Company, 1998.
53. **Cantu RC:** Head Injuries, in Safran M (ed): Spiral Manual of Sports Medicine. New York, Lippencott-Raven Publishers, 1998.
54. Proctor MR, **Cantu RC:** Head and Neck Injuries in Young Athletes, In Clinics and Sports Medicine. WB Saunders Company, 2000.
55. **Cantu RC:** Classifications and Clinical Management of Concussion, In Sports Medicine and Neurosurgery, 2000, The American Association of Neurological Surgeons.

56. **Cantu RC:** Cervical Spine Injuries in the Athlete, In Seminars in Neurology on Sports Neurology. Michael Cherington, editor 2000.
57. **Cantu RC:** Injuries to the Head and Cervical Spine, In Textbook Paediatric Exercise Science and Medicine. Willem van Mechelen and Neil Armstrong, editors, Oxford Press, 2000.
58. **Cantu RC:** Overview of Concussion, Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
59. **Cantu RC:** Life Threatening Head Injuries: Malignant Brain Edema and Second Impact Syndrome. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
60. **Cantu RC:** Guidelines for Safe Return to Play After Athletic Head and Neck Injuries. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
61. **Cantu RC:** Cervical Spinal Stenosis: Diagnosis and Return to Play Issues. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
62. **Cantu RC:** Guidelines for Return to Contact or Collision Sport After a Cervical Spine Injury. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
63. **Cantu RC:** Biomechanics of Head Injury. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
64. **Cantu RC:** Return to Play Guidelines After Concussion. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
65. **Cantu RC:** Life Threatening Head Injuries: Intracranial Hematoma. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
66. **Cantu RC:** Return to Competition After Life Threatening Head Injury. Neurologic Athletic Head and Spine Injuries. WB Saunders Company, Philadelphia, PA, 2000.
67. **Cantu RC:** Classification and Management of Concussion, In Neurological Sports Medicine, A Guide for Physicians and Trainers. American Association of Neurologic Surgeons, Rolling Meadows, IL 2001.
68. **Cantu RC:** Head Injuries in Adults, In Orthopaedic Sport Medicine. Edited by Jesse C. DeLee, M.D. and David Drez, Jr., M.D. Elsevier Science, Philadelphia, PA 2002.
69. **Cantu RC:** Recurrent Athletic Head Injury: Risks and When to Retire, In Clinics in Sports Medicine. Edited by D. Greg Anderson, M.D. and Gregory A. Helm, M.D., Ph.D. W. B. Saunders Company. Philadelphia, PA 2003.
70. Bailes J, Maroon J, **Cantu R:** Athlete with Spine Injury. In Spine Surgery Techniques, Complication Avoidance, and Managaement Second Edition. Elsevier Science, Philadelphia, PA 2005.
71. Neurotrauma: Evidence-based Answers to Common Questions: How Important are Stingers. Thieme Medical Publishers, New York, N.Y. 2001
72. Cantu RV, **Cantu RC:** Athletic Head Injuries. Clinical Sports Medicine. Eited by Walter R. Frontera, MD; Lyle Micheli MD; Stanley A. Herring, MD and Julie K. Silver, MD. W.B. Saunders Company. Philadelphia, PA 2005.
73. Proctor MR, **Cantu RC:** Specific Injuries by Anatomic Location – NECK. Clinical Sports Medicine. Eited by Walter R. Frontera, MD; Lyle Micheli MD; Stanley A. Herring, MD and Julie K. Silver, MD. W.B. Saunders Company. Philadelphia, PA 2005.

74. **Cantu RC**, Cantu RV: Head Injuries. Sports Medicine. Edited by Anthony A. Schepsis; Brian D. Busconi. Lippincott, Williams & Wilkins. Philadelphia, PA 2006;88-95.
75. **Cantu RC**: Transient Quadriplegia. In Sports Neurology. Edited by Barry D. Jordan, Peter Tsairis, Russell F. Warren. Lippincott-Raven. Philadelphia, PA 1998.
76. **Cantu RC**: Recurrent Athletic Head Injury: Risks and When to Retire. In Clinics in Sports Medicine. Edited by D. Gregg Anderson and Gregory A. Helm. WB Saunders Company. Philadelphia, PA 2003.
77. Echemendia RL, **Cantu RC**: Return to play following brain injury, in Traumatic Brain Injury in Sports: An international neuropsychological perspective. Lisse, The Netherlands: Swets & Zeitlinger., Lovell M, Echemendia R, Barth J, Collins M, Editor. 2004, Psychology Press: Lisse p. 479-498.
78. **Cantu RC**: Concussion Classification: Ongoing Controversy. In Foundations of Sport-Related Brain Injuries. Edited by Semyon M. Slobounov and Wayne J. Sebastianelli. Springer Science and Business Media, Inc. New York, New York 2006.
79. **Cantu RC**: Injuries to the Head and Cervical Spine, In Textbook Paediatric Exercise Science and Medicine. Willem van Mechelen and Neil Armstrong, editors 2nd Edition, Oxford Press, 2008.
80. Guskiewicz KM, Echemendia RJ, **Cantu RC**: Assessment and Return to Play Following Sports-Related Concussion, In Orthopaedic Knowledge Update Sports Medicine. W. Ben Kibler, MD Editor 4th Edition, American Academy of Orthopaedic Surgeons, 2009.
81. **Cantu RC**, Cantu RV: Head Injuries. In Orthopedic Sports Medicine Principles and Practice 3rd Edition DeLee, Drez and Miller. Saunders Elsevier 2009 p 657-663.
82. Jayaro M, Chin LS, **Cantu RC**: Punch Drunk Syndrome. In Encyclopedia Of Sports Medicine. Micheli L, Editor. Sage Publications, Inc. 2011 pp1185-1187.
83. Jayro M, Chin LS, **Cantu RC**: Catastrophic Sports Injuries. In Encyclopedia of Sports Medicine. Micheli L, Editor. Sage Publications, Inc. 2011. pp243.255
84. **Cantu RC**: Diabetes Mellitus in Sports. In Encyclopedia of Sports Medicine. Micheli L, Editor. Sage Publications, Inc. 2011. pp 363-365.
85. Cantu RV, **Cantu RC**: Skull Fractures. In Encyclopedia of Sports Medicine. Micheli L, Editor. Sage Publications, Inc. 2011 pp1340-1343.
86. Jayarao M, Chin LS, **Cantu RC**: Prevention of Sports-Related Concussion and Brain Injury. In Manual of Traumatic Brain Injury Management. Demos Medical Publishing. 2011 pp 30-34.
87. Toshkezi G, Chin LS, **Cantu RC**: Cumulative Effects of Repeated Mild Traumatic Brain Injury. In Manual of Traumatic Brain Injury Management. Demos Medical Publishing. 2011 pp 72-76.
88. Daneshvar DH, Riley DO, Nowinski CJ, McKee AC, Stern RA, **Cantu RC**: Long-Term Consequences; Effects on Normal Development Profile After Concussion. In Youth Sport Concussions. Bell KR and Herring, SA Editors. Physical Medicine and Rehabilitation Clinics of North America. Nov 2011, volume 22 pp 683-700.
89. Micheli I, Stein C, O'Brien M, d'Hemecourt P, **Cantu RC**, Cantu RV: Acute Cervical Spine Injuries. Spinal Injuries and Conditions in Young Athletes. Springer 2013, pp 37-45.
90. Slobounov SM, Sebastianelli WJ, **Cantu RC**: Consequences of Ignorance and Arrogance for Mismanagement of Sports-Related Concussions: Short- and Long-Term Complications. Concussions in Athletics. Springer 2014, pp 23-33.

REFERRED ARTICLES

1. **Cantu RC**, Wise BL, Goldfien A, Gullixson KS, Fischer N, Ganong WF: Neural pathways mediating the increase in adrenal medullary secretion produced by hypoglycemia. *Proc Soc Exper Biol Med* 1964; 114:10-13.
2. **Cantu RC**, LeMay M: A large middle cerebral aneurysm presenting as a bizarre vascular malformation. *Brit J Radiol* 1966; 39:317-319.
3. **Cantu RC**, Schwab RS: Ceruloplasmin rise and protein-bound iodine fall in human serum during diphenylhydantoin (Dilantin) administration. *Trans Amer Neurol Assn* 1966; 91:201-203.
4. **Cantu RC**, Drew JH: Pathological laughing and crying associated with a tumor ventral to the pons. *J Neurosurg* 1966; 24:1024-1026.
5. **Cantu RC**, Nahas GG, Manger WM: Effect of hypercapnic acidosis and hypoxia on adrenal catecholamine output of the spinal dog. *Proc Soc Exper Biol Med* 1966; 122:434-437.
6. Hepler RS, **Cantu RC**: Internal carotid aneurysms and third nerve palsies: Ocular status of survivors. *Surg Forum* 1966; 17:436-437.
7. **Cantu RC**, LeMay M, Wilkinson HA: The importance of repeated angiography in the treatment of mycotic-embolic intracranial aneurysms. *J Neurosurg* 1966; 25:189-193.
8. **Cantu RC**, Schwab RS: Ceruloplasmin rise and protein-bound iodine fall in serum due to diphenylhydantoin. *Arch Neurol* 1966; 15:393-396.
9. **Cantu RC**, Moses JM, Kjellberg RN, Connelly JP: An unusual cause of aseptic postoperative fever in a neurosurgical patient. *Clin Med* 1966; 5:747-754.
10. **Cantu RC**, Michelsen JJ, New PFJ: Demonstration of a ventriculo-mastoid fistula (paradoxical cerebrospinal fluid rhinorrhea) by pantopaque ventriculography. *Neurochirurgia* 1967; 10:35-44.
11. **Cantu RC**, Goodman HM: Effects of denervation and fasting on white adipose tissue. *Amer J Physiol* 1967; 212:207-212.
12. **Cantu RC**, Roach AM, Hegsted DM: Atherosclerosis in denervated and intact carotid arteries in rabbits. *Proc Soc Exper Boil Med* 1967; 124:451-454.
13. **Cantu RC**, LeMay M: Porencephaly caused by intracerebral hemorrhage. *Radiology* 1967;; 38:526-530.
14. **Cantu RC**: Importance of pathological laughing and/or crying as a sign of occurrence or recurrence of a tumor lying beneath the brainstem. *J Nerv Ment Dis* 1967; 143:508-512.
15. Cantu JQ, **Cantu RC**: The psychiatric efforts of William Herberden Jr. *Bull Hist Med* 1967; 41:132-139.
16. Hepler RH, **Cantu RC**: Aneurysms and third nerve palsies: Ocular status of survivors. *Arch Ophth* 1967; 77:604-608.
17. Prieto A, **Cantu RC**: Spinal subarachnoid hemorrhage associated with neurofibroma of the cauda equina. *J Neurosurg* 1967; 27:63-69.
18. **Cantu RC**, Mark VH, Austen WG: Accurate placement of the distal end of a ventriculo-atrial shunt catheter using vascular pressure changes. *J Neurosurg* 1967; 27:584-586.
19. **Cantu RC**, Michelsen JJ: Long-term follow-up of nine cases of ventriculocisternostomy for non-neoplastic aqueductal occlusion. *J Neurol Neurosurg Psychiat* 1967; 30:556-558.

20. **Cantu RC**, Ojemann RG: Glucosteroid treatment of keratin meningitis following removal of a fourth ventricle epidermoid tumor. *J Neurol Neurosurg Psychiat* 1967; 31:73-75.
21. **Cantu RC**, Kjellberg RN, Moses JM, Ganz RN: Aseptic meningitis due to dermoid tumor: case report and confirming test. *Neurochirurgia* 1968; 11:94-98.
22. **Cantu RC**, Ferris EJ, Baker EP Jr: Collateral circulation to a parietal arteriovenous malformation following bilateral external carotid artery ligation. *J Neurosurg* 1968; 28:369-372.
23. **Cantu RC**, Ojemann RG: Corticosteroids in aseptic meningitis. *Lancet*; 2:1360-1361.
24. **Cantu RC**, Schwab RS, Timberlake WS: Comparison of blood levels with oral and intramuscular diphenylhydantoin. *Neurology* 1968; 18:782-784.
25. **Cantu RC**, Wright RL: Aseptic meningitis syndrome with cauda equina epidermoid tumor. *J Ped* 1968; 73:114-116.
26. **Cantu RC**, Roth DA, Ferris EJ: Angiography in penetrating cervical injuries. *Inter Surg* 1968; 50:562-565.
27. **Cantu RC**, Correll JW, Manger WM: Reassessment of central neural pathways necessary for adrenal catecholamine output in response to hypoglycemia. *Proc Soc Exper Biol Med* 1968; 129:155-170.
28. **Cantu RC**, Prieto A, Ahmadi A: Evaluation of the increased risk of gastrointestinal bleeding following intracranial surgery in patients receiving high steroid dosages in the immediate postoperative period. *Inter Surg* 1968; 50:325-335.
29. **Cantu RC**: Corticosteroids for spinal metastases. *Lancet* 1968; 2:912.
30. **Cantu RC**, Adams RD, McNamara J, Connelly JP: Spinal cord tumors in children: Current status of early diagnosis in this potentially curable neoplasm. *Clin Ped* 1968; 7:726-732.
31. **Cantu RC**: Improvement of cerebrovascular perfusion following complete ischemia. *Bibl Anat* 1969; 10:324-327.
32. **Cantu RC**: Factors influencing post-ischemic cerebral vascular obstruction. *Surg Forum* 1969; 20:426.
33. **Cantu RC**: Oculomotor palsy with posterior communicating artery aneurysm: Outcome with carotid ligation versus medical therapy. *Inter Surg* 1969; 52:144-150.
34. **Cantu RC**: Transient traumatic cerebellar dysfunction: Report of a syndrome. *Inter Surg* 1969; 52:392-394.
35. **Cantu RC**, Ames A III: Distribution of vascular lesions caused by cerebral ischemia; relation to survival. *Neurology* 1969; 19:128-132.
36. **Cantu RC**, Ames A III: Experimental prevention of cerebral vascular obstruction produced by ischemia. *J Neurosurg* 1969; 30:50-54.
37. **Cantu RC**, Ames A III, DiGiacinto G, Dixon J: Hypotension: A major factor limiting recovery from cerebral ischemia. *J Surg Res* 1969; 9:525-529.
38. **Cantu RC**, Ames A III, Dixon J, DiGiacinto G: Reversibility of experimental cerebrovascular obstruction induced by complete ischemia. *J Neurosurg* 1969; 31:429-431.
39. **Cantu RC**, Dixon J, Ames A III: Reversible ischemia model. *J Surg Res* 1969; 9: 521-524.

40. **Cantu RC**, Souders T, Hepler RS: Effects of carotid ligation on aneurysm-induced oculomotor palsy. *J Neurosurg* 1969; 31:528-532.
41. Kornblith PL, **Cantu RC**, Wilkinson HA, Santamarina BA: Syndrome of temporal lobe herniation in pre-eclampsia. *Amer J Obstet Gynec* 1969; 104:923-924.
42. **Cantu RC**, Hegsted DM: Comparison of cerebrovascular perfusion after ischemia in normal and atherosclerotic rabbits. *J Surg Res* 1970; 10:129.
43. DiGiacinto G, **Cantu RC**: Influence of hypertension on post-ischemic cerebrovascular obstruction. *J Sur Res* 1970; 10:229-232.
44. Price DL, Harris JL, New PFJ, **Cantu RC**: Cardiac myxoma; a clinicopathologic and angiographic study. *Arch Neurol* 1970; 23:558-567.
45. **Cantu RC**: Successful excision of giant scalp hemangioendothelioma. *Inter Surg* 1970; 53:293-295.
46. **Cantu RC**: Unusual complication of long hair. *Lancet* 1971; 1(694):350.
47. Wilkinson HA, Ferris EJ, Muggia AL, **Cantu RC**: Central nervous system tuberculosis; a persistent disease. *J Neurosurg* 1971; 34:15-22.
48. **Cantu RC**: Value of myelography in thoracic spinal cord injuries. *Inter Surg* 1971; 56:23-26.
49. **Cantu RC**, Snyder M: Effects of anticoagulants, vasodilators, and dipyridamole on post-ischemic cerebral vascular obstruction. *J Surg Res* 1971; 2:70-71.
50. **Cantu RC**: Use and abuse of carotid angiography in assessing brain ischemia in cases of increased intracranial pressure. *Inter Surg* 1972; 57: 668-670.
51. **Cantu RC**: Brain death as determined by cerebral arteriography. *Lancet* 1973; 1:1391-1392.
52. **Cantu RC**: A simplified technique of anterior spinal fusion using Methyl Methacrylate (Acrylic). *Inter Surg* 1974; 59:110-111.
53. **Cantu RC**: Joint fitness program benefits business and hospital employees. *Hospitals* 1982; 56:46.
54. **Cantu RC**: It happened in 1974. *Surgical Rounds* 1985; 8:117-118.
55. **Cantu RC**: Guidelines to return to contact sports after cerebral concussion. *The Physician and Sportsmedicine* 1986; 14:75-83.
56. **Cantu RC**: Catastrophic injuries in high school and collegiate athletes. *Surgical Rounds for Orthopaedics* 1988; November:62-66.
57. Mueller FO, Blyth CS, **Cantu RC**: Catastrophic spine injuries in football. *The Physician and Sportsmedicine* 1989; 17(10).
58. Cunningham LN, **Cantu RC**: Acute and chronic effects of exercise using an Exercycle in healthy, untrained adults. *Phys Ther* 1990; 70:494-502.
59. McKeag DB, **Cantu RC**: Neck pain in a football player. *The Physician and Sportsmedicine* 1990; 18(3):115-120.
60. **Cantu RC**, Mueller FO: Catastrophic spine injuries in football (1977-1989). *J Spinal Disord* 1990; 3(3):227-231.

61. Mueller FO, **Cantu RC**: Catastrophic injuries and fatalities in high school and college sports: fall 1982-spring 1988. *MSSE* 1990; 22(6):737-741.
62. Weinstein SM, **Cantu RC**: Cerebral stroke in a semi-pro football player: a case report. *MSSE* 1991; 23:1119-1121.
63. **Cantu RC**: Congenital cardiovascular disease – the major cause of athletic death in high school and college. *MSSE* 1992; 24(3):279-280.
64. **Cantu RC**: When to allow athletes to return to play after injury. *J Neurol Orthop Med Surg* 1992; 13:30-34.
65. **Cantu RC**, Mueller FO: Catastrophic football injuries in the USA: 1977-1990. *Clinical Journal of Sports Medicine* 1992; 2 (3):180-185.
66. **Cantu RC**: Cerebral concussion in sports. *Sports Medicine* 1992; 14(1):64-74.
67. **Cantu RC**: Second impact syndrome: Immediate management. *The Physician and Sportsmedicine* 1992; 20(9):55-66.
68. **Cantu RC**: Cervical spinal stenosis: Challenging an established detection method. *The Physician and Sportsmedicine* 1993; 21(9):57-63.
69. **Cantu RC**: Functional spinal stenosis: A contraindication to participation in contact sports. *MSSE* 1993; 25(3):316-317.
70. Cantu RV, **Cantu RC**: Guidelines for return to contact sports after transient quadriplegia. *J Neurosurg* 1994; 80(3):592-594.
71. **Cantu RC**, Mueller FO: Cheerleading. *Clinical Journal of Sports Medicine* 1994; 4(2):75-76.
72. Cantrill SV, **Cantu RC**, Ivatury RR, Viccellio P: Neck Trauma – no margin for error. *Patient Care* 1994; 28:44-46.
73. **Cantu RC**: Transient quadriplegia: to play or not to play. *Sports Medicine Digest* 1994; 16:1-4.
74. **Cantu RC**, Voy RO: Second Impact Syndrome: a risk in any contact sport. *The Physician and Sportsmedicine*. 1995; 23(6):27-34.
75. Van Camp SP, Bloor CM, Mueller FO, **Cantu RC**, Olson HG: Nontraumatic sports death in high school and college athletes. *Medicine and Science in Sports and Exercise* 1995; 27(5):641-647.
76. **Cantu RC**: Catastrophic injury of the brain and spinal cord. *Virginia Medical Quarterly* 1996; 123:98-102.
77. **Cantu RC**: Head injuries in sport. *Br J Sports Med* 1996; 30:289-296.
78. **Cantu RC**: Guidelines for Return to Contact Sport After Transient Quadriplegia. *ASTM* 1996; 1305:53-59.
79. **Cantu RC**: Stingers, Transient Quadriplegia and Cervical Spinal Stenosis: Return to Play Criteria. *MSSE* 1997; 29:233-235.
80. **Cantu RC**: Reflection on Head Injuries in Sport and the Concussion Controversy. *Clinical Journal of Sports Medicine* 1997; 7:83-84.
81. **Cantu RC**, Mueller FO: Fatalities and Catastrophic Injuries in High School and College Sports, 1982 -1997, *The Physician in Sports Medicine* 1999; 27:35-48.

82. **Cantu RC**: Cervical Spinal Stenosis: Diagnosis and Return to Play Issues, *Sports Medicine Consultant* 2000, McGraw-Hill, 2000; 1:2-6.
83. **Cantu RC**: Curve Counter Spinal Stenosis, *NASS News*, 2000.
84. **Cantu RC**, Mueller FO: Catastrophic Football Injuries *Neurosurgery* 2000; 47:673-677.
85. **Cantu RC**: Cervical Spine Injuries in the Athlete, *Seminars in Neurology*, 2000;20(2):173-178.
86. **Cantu R**: Post Traumatic Retrograde and Anterograde Amnesia: Pathophysiology and Implications in Grading and Safe Return to Play. *Journal Athletic Training on Sports Related Concussion*_ 2001;36:244-248.
87. **Cantu R**: Forward: *Journal of Athletic Training on Sports Related Concussion*_2001;36:227.
88. Marchiacci Barth, Littlefield Jane, **Cantu Robert**: Multiple Concussions and Neuropsychological Functioning in College Football Player. *Journal of Athletic Training on Sports Related Concussion* 2001;36:303-306.
89. Aubry M, **Cantu R**, Devorak J, et al: Summary and Agreement Statement of the First International Conference on Concussion in Sport, Vienna 2001: *The Physician and Sportsmedicine* 2002;30(2):57-63.
90. Aubry M, **Cantu R**, Devorak J et al: Summary and Agreement Statement of the First International Conference on Concussion in Sport, Vienna 2001: Published Concurrently In: *Br J Sports Med*_2002; 36(1):6-10 and *Clin J Sports Med* 2002;12(1):6-11.
91. Guskiewicz KM, Marshall SW, Broglio SP, **Cantu RC**, Kirkendall DT: No evidence of impaired neurocognitive performance in collegiate soccer athletes. *American Journal of Sports Medicine* 2002; 30(2):157-162.
92. **Cantu RC**: Work-up of the Athlete With Concussion. *The American Journal of Medicine & Sports* 2002; IV(II):152-154.
93. Collins MW, Lovell MR, Iverson G, **Cantu RC**, Maroon J, Field M, Fu FH: Cumulative Effects of Concussion in High School Athletes. *Neurosurgery* 2002.
94. Bailes JE, **Cantu RC**, Day AL: The Neurosurgeon in Sport: Awareness of the Risks of Heatstroke and Dietary Supplements. *Neurosurgery* 2002; 51:283-288.
95. Guskiewicz KM, **Cantu RC**: The Concussion Puzzle: Evaluation of Sport-Related Concussion. *The American Journal of Medicine and Sport* 2003
96. Quarrie KL, **Cantu RC**, Chalmers DJ: Rugby Union injuries to the cervical spine and spinal cord. *Sports Medicine* 2002;32(10):633-653.
97. **Cantu, RC**: Invited Commentary: Athletic Head Injury. *Current Sports Medicine Reports* 2003; 2(3):117-119.
98. **Cantu RC**, Echemendia RJ: Return to Play Following Sports-Related Mild Traumatic Brain Injury; The Role for Neuropsychology. *Applied Psychology* 2003; 10(1):48-55.
99. Guskiewicz K, McCrea M, Marshall S, **Cantu R**, Barr W, Onate J, Kelly J: Cumulative Effects Associated With Recurrent Concussion in Collegiate Football Players, The NCAA Concussion Study. *JAMA* 2003; 290(19):2549-2555.
100. McCrea M, Guskiewicz KM, Marshall SW, Barr W, Randolph C, **Cantu RC**, Onate JA, Yang J, Kelley JP: Acute Effects and Recovery Time Following Concussion in Collegiate Football Players. *JAMA* 2003; 290(19):2556-2563.
101. Lovell M, Collins M, Iverson G, Field M, Maroon J, **Cantu R**, Rodell K, Powell J, Belza M, Fu F: Recovery from mild concussion in high school athletes. *Journal of Neurosurgery*_ 2003; 98:295-301.

102. Collins M, Lovell M, Iverson G, **Cantu R**, Maroon J, Field M: Cumulative effects of concussion in high school athletes. *Neurosurgery* 2003; 51:1175-1181.
103. McCrea M, Guskiewicz K, Marshall S, Barr W, Randolph C, **Cantu R**, Onate J, Yang J, Kelly J: Acute Effects and Recovery Time Following Concussion in Collegiate Football Players: The NCAA Concussion Study. *JAMA* 2003; 290(19):2556-2563.
104. Erlanger D, Kushik T, **Cantu R**, Barth J, Brishek D, Freeman J, Kroger D: Symptom-Based Assessment of Concussion Severity. *J Neurosurg* 2003; Mar93(3):477-484.
105. Echemendia RJ, **Cantu RC**: Return to play following Sports-Related Mild Traumatic Brain Injury: The Role for Neuropsychology. *Applied Neuropsychology* 2003;10(1):48-55.
106. Echemendia RC, **Cantu RC**: Neuropsychology's role in return to play following sports-related cerebral concussion. *Applied Neuropsychology*, 2003;10(1):48-55.
107. **Cantu RC**: Concussion severity should not be determined until all post concussion symptoms have abated. *The Lancet* 2004;3:437-438.
108. Guskiewicz K, Bruce S, **Cantu R**, Ferrara M, Kelly J, McCrea M, Putukian M, McLeod T: National Athletic Trainer's Association Position Statement: Management of Sport-Related Concussion . *Journal Athletic Training* 2004;39(3):280-295.
109. Guskiewicz K, Bruce S, **Cantu R**, Ferrara M, Kelly J, McCrea M, Putukian M, Valovich T: Recommendations on Management of Sport-related Concussion: Summary of the National Athletic Trainers' Association Position Statement. *Neurosurgery* 2004;55(4):891-896.
110. McCrory P, Johnston K, et al: Summary and Agreement Statement of the Second International Conference on Concussion in Sport, Prague 2004. *Phy and Sports Med* 2005;33(4):29-44
111. McCrea M, Barr W, Guskiewicz K, Randolph C, Marshall S, **Cantu R**, Onate J, Kelly J: Standard regression-based methods for measuring recovery after sport-related concussion. *Applied Neuropsychology* 2005;58-69.
112. McCrory P, Johnston K, et al: Summary and Agreement Statement of the Second International Conference on Concussion in Sport, Prague 2004. *Br J Sports Med* 2005;39(4):196-205.
113. McCrory P, Johnston K, et al: Summary and Agreement Statement of the Second International Conference on Concussion in Sport, Prague 2004. *Clin Sports Med* 2005;15(2):48-56.
114. Guskiewicz KM, Marshall SW, Bailes J, McCrea M, **Cantu RC**, Randolph C, Jordan BD: Association between recurrent concussion, mild cognitive impairment, and Alzheimer's disease in retired professional football players. *Neurosurgery* 2005;57(4):719-724.
115. Herring, S, **Cantu R**, et al: ACSM Team Physician Concussion Consensus Statement. *Med Sci Sports Exerc.* 2006; 38(2):395-399.
116. Boden B, Tacchetti R, **Cantu R**, Knowles S, Mueller F: Catastrophic Cervical Injuries in High School and College Football Players *AJSM* 2006;34(8):1223-1232.
117. **Cantu RC**: An Overview of Concussion Consensus Statements Since 2000. *Neurosurgical Focus* 2006;21:1-5.
118. Miele VJ, Bailes JE, **Cantu RC**, Rabb CH: Subdural hematomas in boxing: the spectrum of consequences. *Neurosurgical Focus* 2006;21(4):1-8.

119. Boden B, Tacchetti R, **Cantu R**, Knowles S, Mueller F: Catastrophic Head Injuries in High School and College Football Players. *AJSM* 2007;35:1-7.
120. **Cantu RC**: Athletic Concussions: Current Understanding as of 2007. *Neurosurgery* 2007;60(6):963-964.
121. **Cantu RC**: Chronic Traumatic Encephalopathy in the National Football League. *Neurosurgery* 2007;61(2):223-225.
122. Guskiewicz KM, Marshall SW, Bailes J, McCrea M, Harding HP JR, Matthews A, Mihalik JR, **Cantu RC**: Recurrent concussion and risk of depression in retired professional football players. *Medicine and Science in Sports and Exercise* 2007;39(6):903-909.
123. **Cantu RC**, Herring SA, Putukian M: Concussion: Letter to the Editor. *NEJM* 2007;356(17):1787.
124. Standaert CJ, Herring SA, **Cantu RC**: Expert Opinion and Controversies in Sports and Musculoskeletal Medicine: Concussion in the Young Athlete. *Arch Phys Med Rehabil*; 2007;88:1077-1079.
125. **Cantu RC**, Detection of postconcussion abnormalities after injury in young athletes. *Clin J Sport Med* 2007;17(5):435-436.
126. Davis G, Ugokwe K, Roger EP, Benzel EC, **Cantu RC**, Rogers M, Dvorak J, McCrory P: *Br J Sports Med* June 2008
127. Terrell, T, Bostick, R, Abramson, Xie, D, R, Barfield, W, **Cantu, R**, Stanek, M, Ewing, T. APOE, APOE Promoter, and Tau Genotypes and Risk for Concussion in College Athletes. *Clinical Journal of Sport Medicine* 2008;18:10-17.
128. **Cantu, R**: Consensus Statement on Concussion in Sport – The 3rd International Conference on Concussion, Zurich, November 2008. *Neurosurgery* 2009;64(5):786-787.
129. **Cantu RC**: Commentary When to Disqualify an Athlete After a Concussion, *Current Sports Medicine Reports* 2009;8:6-7.
130. McCrory JP, Meeuwisse W, Johnston K, Dvorak J, Aubry M, Mallow M, **Cantu R**. Consensus statement on concussion in sports – the Third International Conference on Concussion in Sport held in Zurich, November 2008, *Phy Sportsmed*. 2009;37:141-159.
131. McKee AC, **Cantu RC**, Nowinski CJ: Chronic Traumatic Encephalopathy in Athletes: Progressive Tauopathy After Repetitive Head Injury. *J Neuropath Exp Neurol* 2009;68:709-735.
132. **Cantu RC**, Mueller FO. The prevention of catastrophic head and spine injuries in high school and college sports. *Br J Sports Med*. 2009;43:981-986.
133. Mihalik JP, Greenwalk RM, Blackburn JT, **Cantu RC**, Marshall SW, Guskiewicz KM. The effect of infraction type on head impact severity in youth ice hockey. *Med Sci Sports Exer*. 2010;42:1431-1438.
134. Gavett BE, Stern RA, **Cantu RC**, Nowinski CJ, McKee AC. Mild traumatic brain injury: a risk factor for Neurodegeneration. *Alzheimer's Research & Therapy* 2010;2:18-21.
135. **Cantu RC**, Gean A. Second Impact Syndrome and a Thin Subdural Hematoma: An Uncommon Catastrophic Result of Repetitive Head Injury With a Characteristic Imaging Appearance. *J Neurotrauma* 2010;27:1-8.
136. Echlin PS, Tator CH, Cusimaon MD, **Cantu RC**, Taunton JE, Upshur RE, Hall CR, Johnson AM, Forwell LA, Skopelja EN. A prospective study of physician-observed concussions during junior ice hockey: implications for incidence rates. *Neurosurg Focus* 2010;29(5):E4.

137. Echlin PS, Johnson AM, Riverin S, Tator CH, **Cantu RC**, Cusimano MD, Taunton JE, Upshur RE, Hall CR, Forwell LA, Skopelja EN. A prospective study of concussion education in 2 junior ice hockey teams: implications for sports concussion education. *Neurosurg Focus* 2010;29(5):E6.
138. Echlin PS, Tator CH, Cusimano MD, **Cantu RC**, Taunton JE, Upshur RE, Czarnota M, Hall CR, Johnson AM, Forwell LA, Driediger M, Skopelja EN. Return to play after an initial or recurrence concussion in a prospective study of physician-observed junior ice hockey concussions: implications for return to play after a concussion. *Neurosurg Focus* 2010;29(5):E5.
139. Jayarao M, Chin L, **Cantu R**. Boxing-Related Head Injuries. *The Physician and Sportsmedicine*. October 2010;3:0091-3847.
140. McKee AC, Gavett BE, Stern RA, Nowinski CJ, **Cantu RC**, Kowall NW, Perl DP, Hedley-Whyte ET, Price B, Sullivan C, Morin P, Kubilus CA, Daneshvar DH, Wulff M, Budson AE. TDP-43 proteinopathy and motor neuron disease in chronic traumatic encephalopathy. *J Neuropathol Exp Neurol*. September 2010;60(9):918-29.
141. Mihalik JP, Blackburn JT, Greenwald RM, **Cantu RC**, Marshall SW, Guskiewicz KM. Collision type and player anticipation affect head impact severity among youth ice hockey players. *Pediatrics*. June 2010;125(6):e1394-401.
142. **Cantu RC**, Guskiewicz K, Register-Mihalik JK. A Retrospective Clinical Analysis of Moderate to Severe Athletic Concussions. *PM&R*. December 2010;(2)12:1088-1093.
143. **Cantu RC**: World Cup Soccer; A Major League Soccer Superstar's Career-Ending Injury, Concussion; and World Neurosurgery: A Common Thread. *World Neurosurgery* August/September 2010;74(2/3):224-225.
144. **Cantu RC**: Is Helmet Design the Answer to Concussion in Sports. *Active Voice Bulletin ACSM*, September 2010.
145. Thomas M, Haas, TS, Doerer, JJ, Hodges JS, Aicher BO, Garberich RF, Mueller FO, **Cantu RC**, Maron BJ: Epidemiology of Sudden Death in Young, Competitive Athletes Due to Blunt Trauma. *Pediatrics* July 2011;
146. Chin LS, Jayarao M, **Cantu RC**: Inside Sports-Related Head Injury: Tau Inclusion Bodies and Proteins in a Tangle. *Neurosurgeon*, 2011;20(1):4-7.
147. Daneshvar DH, Baugh CM, Nowinski CJ, McKee AC, Stern RA, **Cantu RC**: Helmets and Mouth Guards: The role of personal equipment in preventing sport-related concussions. *Clinics in Sports Medicine*. 2011;30:145-163
148. Chin LS, Toshkezi G, **Cantu RC**, Traumatic Encephalopathy Related to Sports Injury, *US Neurology*, 2011;7(1):33-6.
149. Broglio S, Schartz E, Crisco T, **Cantu RC**, In Vivo Biomechanical Measurements of a Football Player's C6 Spine Fracture, *N Engl J Med* 365;3 *nejm.org* 2011
150. Mihalik JP, Guskiewicz KM, Marshall SW, Greenwald RM, Blackburn JT, **Cantu RC**, Does Cervical Muscle Strength in Youth Ice Hockey Players Affect Head Impact Biomechanics, *Clin J Sport Med*, 2011;21:416-421
151. **Cantu RC**. Register-Mihalik JK: Return-to-Play and Retirement Decisions After Concussion. *PM&R*, 2011;3:S440-444.
152. Daneshavar DH, Riley DO, Nowinski CJ, McKee AC, Stern RA, **Cantu RC**: Long-Term Consequences: Effects on Normal Development Profile After Concussion. *PM&R*, 2011;22(4):682-700.
153. Herring SA, **Cantu RC**, Guskiewicz KM, Putukian M, Kibler WB: Concussion (Mild Traumatic Brain Injury) and the Team Physician: A Consensus Statement – 2011 Update. *Medicine & Science in Sports & Exercise*, 2011 Special Communications 2412-2422. <http://www.acsm-msse.org>
154. Stern RA, Riley DO, Daneshvar DH, Nowinski CJ, **Cantu RC**, McKee AC: Long Term Consequences of Repetitive Brain Trauma: Chronic Traumatic Encephalopathy. *PM*, 2011;3: S460-S467.

155. Gavett, BE, **Cantu RC**, Shenton M, Lin A, Nowinski CJ, McKee AC, Stern RA: Clinical Appraisal of Chronic Traumatic Encephalopathy: Current Perspectives and Future Directions. *Current Opinion in neurology* 2011a; 24:525-531.
156. L. E. Goldstein, A. M. Fisher, C. A. Tagge, X.-L. Zhang, L. Velisek, J. A. Sullivan, C. Upreti, J. M. Kracht, M. Ericsson, M. W. Wojnarowicz, C. J. Goletiani, G. M. Maglakelidze, N. Casey, J. A. Moncaster, O. Minaeva, R. D. Moir, C. J. Nowinski, R. A. Stern, **R. C. Cantu**, J. Geiling, J. K. Blusztajn, B. L. Wolozin, T. Ikezu, T. D. Stein, A. E. Budson, N. W. Kowall, D. Chargin, A. Sharon, S. Saman, G. F. Hall, W. C. Moss, R. O. Cleveland, R. E. Tanzi, P. K. Stanton, A. C. McKee, Chronic traumatic encephalopathy in blast-exposed military veterans and a blast neurotrauma mouse model. *Sci. Transl. Med.* 4, 134ra60 (2012).
157. Mihalik JP, Guskiewicz KM, Marshall, SW, Blackburn JT, **Cantu RC**, Greenwald RM (2011). Head Impact Biomechanics in Youth Hockey: Comparisons across playing position, event types, and impact locations. *Annals of Biomedical Engineering*;40(1):141-149.
158. Saffary R, Chin LA, **Cantu RC**. From Concussion to Chronic Traumatic Encephalopathy: A review. *J Lifestyle Magazine* (2012)
159. Baugh, CM, Stamm, JM, Riley DO, Gavett, BE, Shenton M, Lin A, Nowinski, CJ, **Cantu RC**, McKee AC, Stern RA: Chronic Traumatic Encephalopathy: Neurodegeneration Following Repetitive Concussive and Subconcussive Brain Trauma. *Brain Imaging and Behavior*, June 2012;6(2):244-54.
160. McKee A, Stern R, Nowinski C, Stein T, Alvarez V, Daneshvar D, Lee H, Hall G, Wojtowica S, Baugh C, Riley D, Kubilis C, Cormier K, Jacobs M, Martin B, Abraham C, Ikesu T, Reichard R, Wolozin B, Budson A, Goldstein L, Kowall N, **Cantu R**: The Spectrum of Disease in Chronic Traumatic Encephalopathy, *doi:10.1093/Brain/aws307* (22 pages) 2012
161. Yi J, Padalino D, Chin L, Montenegro P, **Cantu RC**: Chronic Traumatic Encephalopathy, *Current Sports Medicine Reports*, Jan/Feb 2013;12 (1): 28-32
162. Saffary R, Chin L, **Cantu RC**: From Concussion to Chronic Traumatic Encephalopathy: A Review, *Journal of Clinical Sport Psychology* 2012;6:351-362.
163. **Cantu, RC**, Li Y, Abdulhamid M, Chin L, Return to Play After Cervical Spine Injury in Sports, *Current Sports Medicine Reports*, Jan/Feb 2013;12 (1): 14-17.
164. Seichepine, DR, Stamm, JM, Daneshvar, DH, Riley, DO, Baugh, CM, Gavett, BE, Tripodis, Y, Martin, B, Chaisson, C, McKee, AC, **Cantu, RC**, Nowinski, CJ, & Stern, RA (in press). Profile of Self-reported Problems with Executive Functioning in College and Professional Football Players. *Journal of Neurotrauma*, 2013; 30: 1299-1304.
165. McCrory P, Meeuwisse WH, Aubry M, **Cantu B**, et al, Dvorak J, Echemendia RJ, Engebretsen L, Johnston K, Kutcher JS, Raftery M, Sills A, Benson BW, Davis GA, Ellenbogen RG, Guskiewicz K, Herring SA, Iverson GL, Jordan BD, Kissick J, McCrea M, McIntosh AS, Maddocks D, Makdiss M, Purcell L, Putukian M, Schneider K, Tator CH, Turner M: Consensus Statement on Concussion in Sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012: *Br J Sports Med* 2013;47:250-258 doi:10.1136/bjsports-2013-092313.
166. Putukian M, Raftery M, Guskiewicz K, Herring S, Aubry M, **Cantu RC**, Molloy M: Onfield Assessment of Concussion in the adult athlete: *Br J Sports Med* 2013;47:285-288 doi:10.1136/bjsports-2013-092158.
167. Makdissi M, **Cantu RC**, Johnston KM, McCrory P, Meeuwisse WH: The difficult Concussion Patient: What is the Best Approach to Investigation and Management of Persistent (>10 days) Postconcussive Symptoms?: *Br J Sports Med* 2013;47:308-313 doi:10.1136/bjsports-2013-092255.
168. Stern RA, Baugh CM, Seichepine DR, Montenegro PH, Riley DO, Fritts NG, Stamm JM, Robbins CA, McHale L, Simkin I, Stein TD, Alvarez VE, Goldstein LE, Budson AE, Kowall NW, Nowinski CJ, **Cantu RC**, McKee AC: Clinical Presentation of Chronic Traumatic Encephalopathy: *American Academy of Neurology*; 2013;81:1122-1129.

169. **Cantu RC**, Role of Diffusion Tensor Imaging MRI in Detecting Brain Injury in Asymptomatic Contact Athletes: *World Neurosurgery*; December 2013;5:792-793.
170. **Cantu RC**, The Role of the Neurologist in Concussions When to Tell Your Patient to Stop: *Jama Neurology*; October 2013;*Jamaneurology.com*;E1-E2.
171. Kroshus E, Daneshvar DH, Baugh, CM, Nowinski CJ, **Cantu RC**, NCAA Concussion Education In Ice Hockey: An Ineffective Mandate: *BJSM Online*; 2013 10.1136
172. Broglio SP, **Cantu RC**, Gioia GA, Guskiewicz KM, Kutcher J, Palm M, Valovich McLeod TC, National Athletic Trainers' Association Position Statement: Management of Sport Concussion: *Journal of Athletic Training*; 2014;49(2):245-265.
173. Slobounov S, Bazarian J, Bigler E, **Cantu R**, Hallett M, Harbaugh R, Hovda D, Mayer AR, Nuwer MR, Kou Z, Lazzarino G, Papa L, Vagnozzi R, Sport-Related concussion: Ongoing Debate: *BR J Sports Med*; January 2014: 48:2:75-76.
174. Robbins CA, Daneshvar DH, Picano JD, Gavett BE, Baugh CM, Riley DO, Nowinski CJ, McKee AC, **Cantu RC**, Stern RA, Self-Reported Concussion History: Impact of Providing a Definition of Concussion: *Open Access Journal of Sport Medicine*; 2014;5:99-103.
175. Collins CL, Fletcher EN, Fields, SK, Kluchurosky L, Rohrkemper MK, Comstock RD, **Cantu RC**, Neck Strength: A Protective Factor Reducing Risk for Concussion in High School Sports: *J Primary Prevent*; June 2014;35:3
176. Montenegro PH, Baugh CM, Daneshvar DH, Mez J, Budson AE, Au R, Katz D, **Cantu RC**, Stern RA, Clinical Subtypes of Chronic Traumatic Encephalopathy: *Alzheimer's Research and Therapy*; (in press)

BOOKS

1. **Cantu RC**, Michelsen JJ, White JC:
Ventriculocisternostomy: Long-term Experiences
Springfield, Charles C Thomas, 1970.
2. **Cantu RC**: Toward Fitness
New York, Human Sciences Press, 1980.
3. **Cantu RC**: Health Maintenance Through Physical Conditioning
Littleton, Wright-PSG Publishing, Inc, 1981.
4. **Cantu RC**: The Exercising Adult
Lexington, The Collamore Press, D.C. Heath & Co, 1981.
5. **Cantu RC**: Sports Medicine in Primary Care
Lexington, The Collamore Press, D.C. Heath & Co, 1982.
6. **Cantu RC**: Diabetes and Exercise
New York, E.P. Dutton, Inc, 1982.
7. **Cantu RC**: Sports Medicine-Sports Science: Bridging the Gap
Lexington, The Collamore Press, D.C. Heath & Co, 1982.
8. **Cantu RC**: Regaining Health and Fitness
Brattleboro, The Stephen Greene Press, 1982.
9. **Cantu RC**: Exercise Injuries: Prevention and Treatment
Washington, D.C., The Stonewall Press, 1983.
10. **Cantu RC**: Clinical Sports Medicine
Lexington, The Collamore Press, D.C. Heath & Co, 1983.
11. **Cantu RC**, Butler RB, Moore MJ:
Neurology in Primary Care
New York, MacMillan Publishing Co, 1987.
12. **Cantu RC**: The Exercising Adult, 2nd Edition
New York, MacMillan Publishing Co, 1987.
13. **Cantu RC**, Micheli LJ:
American College of Sports Medicine: Guidelines for the Team Physician
Philadelphia, Lea & Febiger, 1991.
14. **Cantu RC**, et al, in Cantu RC (ed): Boxing and Medicine
Champaign, IL, Human Kinetics, 1995.
15. Mueller FO, **Cantu RC**, Van Camp SP:
Catastrophic Injuries in High School and College Sports
Champaign, IL, Human Kinetics, 1996.
16. **Cantu RC**: Clinics in Sports Medicine: Neurologic Athletic Head and Neck Injuries
Philadelphia, W.B. Saunders Company, 1998.
17. **Cantu RC**: Neurologic Athletic Head and Neck Injuries Philadelphia, W.B. Saunders Company, 1998.
18. **Cantu RC**: Neurologic Athletic Head and Spine Injuries Philadelphia, W.B. Saunders Company, 2000.
19. **Cantu R**, Shephard R, Alexander M, Kohrt W, Nieman D, Shrier I: Yearbook of Sports Medicine Philadelphia, PA Mosby, Inc. 2002
20. **Cantu R**, Shephard R, Alexander M, Kohrt W, Nieman D, Shrier I: Yearbook of Sports Medicine Philadelphia,

PA Mosby, Inc. 2003

21. **Cantu R**, Shephard R, Alexander M, Nieman D, Sanborn C, Shrier I, Sallis R: Yearbook of Sports Medicine Philadelphia, PA, Mosby, Inc. 2004.
22. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2005.
23. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2006.
24. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2007.
25. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2008.
26. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2009.
27. **Cantu R**, Shepard R, Alexander M, Feldman D, McCrory P, Nieman D, Rowland T, Sanborn C, Shrier I: Yearbook of Sports Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2010.
28. Mueller FO, **Cantu RC**: Football Fatalities and Catastrophic Injuries, 1931-2008 Carolina Academic Press Durham, NC 2011.
29. Shephard RJ, **Cantu RC**, Feldman DH, Jankowski CM, Khan KM, Lebrun C, Nieman DC, Pierrynowski MR, Rowland T: Yearbook of Sport Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2011.
30. Shephard RJ, **Cantu RC**, Feldman DH, Jankowski CM, Khan KM, Lebrun C, Nieman DC, Pierrynowski MR, Rowland T: Yearbook of Sport Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2012.
31. **Cantu RC**, Hyman M: Concussion and Our Kids Houghton Mifflin Harcourt 2012
32. Shephard RJ, **Cantu RC**, Feldman DH, Jankowski CM, Khan KM, Lebrun C, Nieman DC, Pierrynowski MR, Rowland T: Yearbook of Sport Medicine Philadelphia, PA, Elsevier/Mosby, Inc. 2013.

NON-REFEREED ARTICLES

1. **Cantu RC:** Unwilling laughter traced to tumor. Med World News 1965; 184-185.
2. **Cantu RC, Drew JH:** Pathological laughing and crying associated with a tumor ventral to the pons. JAMA 1966; 197:184.
3. **Cantu RC, Drew JH:** Pathological laughing and crying associated with a tumor ventral to the pons. Psychiat Digest 1966; 27:46-47.
4. **Cantu RC:** Factors improving post-ischemic cerebral vascular obstruction. Cerebral Circulation and Metabolism 1975; 216-219.
5. **Cantu RC:** Nutrition for the long distance runner. Runner's Release 1979; 1(2):8-9.
6. **Cantu RC:** The psychological benefits of running. Runner's Release 1979; 1(3):13.
7. **Cantu RC:** Risk of chronic brain injury. ACSM Bulletin 1986; November.
8. **Cantu RC:** When to return to contact sports after a cerebral concussion. Sports Medicine Digest 1988; 10(11):1-2.
9. Mueller FO., **Cantu RC:** National Center for Catastrophic Sports Injury Research 6th Annual Report. Fall 1982-Spring 1988. Chapel Hill, NC.
10. Mueller FO, **Cantu RC:** National Center for Catastrophic Sports Injury Research 7th Annual Report. Fall 1982-Spring 1989. Chapel Hill, NC.
11. Tobin WE, **Cantu RC:** Subarachnoid hemorrhage associated with aerobic exercise. The Physician and Sportsmedicine 1989; 17(5):145-148.
12. Mueller FO, **Cantu RC:** National Center for Catastrophic Sports Injury Research 8th Annual Report. Fall 1982-Spring 1990. Chapel Hill, NC.
13. **Cantu RC:** On-the-field evaluation of head and neck injuries. Orthopedic & Sports Medicine News 1991; 2:15-16.
14. **Cantu RC:** Diagnosis of acute low back pain in the athlete. Sports Medicine Digest 1991; 13(3):1-2.
15. Mueller FO, **Cantu RC:** National Center for Catastrophic Sports Injury Research 9th Annual Report. Fall 1982-Spring 1991. Chapel Hill, NC.
16. Mueller FO, **Cantu RC:** National Center for Catastrophic Sports Injury Research 10th Annual Report. Fall 1982-Spring 1992. Chapel Hill, NC.
17. Hodgson VR, **Cantu RC:** Rule change in 1970s highlights efforts to reduce football injuries. National Federation News 1992; 28-29.
18. **Cantu RC:** Research: Our roots. Sports Medicine Bulletin 1992; 27(3):3.
19. **Cantu RC:** A night to be proud. Sports Medicine Bulletin 1993; 28(1):3.
20. **Cantu RC:** Membership: The foundation and strength of ACSM. Sports Medicine Bulletin 1993; 28(2):3.
21. **Cantu RC:** Functional spinal stenosis: A contraindication to participation in contact sports. (letter to editor) MSSE 1993; 25(9):1082-1083.
22. **Cantu RC:** Assessing athletic head injuries. Rehab Management 1993; 6(5):59-60.

23. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 11th Annual Report. Fall 1982-Spring 1993. Chapel Hill, NC.
24. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 12th Annual Report. Fall 1982-Spring 1994. Chapel Hill, NC.
25. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 13th Annual Report. Fall 1982-Spring 1995. Chapel Hill, NC.
26. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 14th Annual Report. Fall 1982-Spring 1996. Chapel Hill, NC.
27. **Cantu RC**: Football's rate of concussions demands more helmet research and a halt to "spearing tactics." National Collegiate Athletic Association Education Newsletter: Sports Sciences Spring 1995.
28. **Cantu RC**: The prevention of athletic head and spine injuries. Sidelines Fall 1996; National Youth Sports Safety Foundation, Needham, MA.
29. Kleiner DM, **Cantu RC**: Football helmet removal. American College of Sports Medicine: Current Comments September, 1996.
30. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 15th Annual Report. Fall 1982 to Spring 1997. Chapel Hill, NC.
31. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 16th Annual Report. Fall 1982 to Spring 1998. Chapel Hill, NC.
32. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 17th Annual Report. Fall 1982 to Spring 1999. Chapel Hill, NC.
33. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 18th Annual Report. Fall 1982 to Spring 2000. Chapel Hill, NC.
34. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 19th Annual Report. Fall 1982 to Spring 2001. Chapel Hill, NC.
35. **Cantu RC**: A New Tool for the Evaluation of Concussion in Boxers. 2002
36. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 20th Annual Report. Fall 1982 to Spring 2002. Chapel Hill, NC.
37. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 21st Annual Report. Fall 1982 to Spring 2003. Chapel Hill, NC.
38. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 22nd Annual Report. Fall 1982 to Spring 2004. Chapel Hill, NC.
39. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 23rd Annual Report. Fall 1982 to Spring 2005. Chapel Hill, NC.
40. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 24th Annual Report. Fall 1982 to Spring 2006. Chapel Hill, NC.
41. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 25th Annual Report. Fall 1982 to Spring 2007. Chapel Hill, NC.

42. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 26th Annual Report. Fall 1982 to Spring 2008. Chapel Hill, NC.
43. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 27th Annual Report. Fall 1982 to Spring 2009. Chapel Hill, NC
44. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 28th Annual Report. Fall 1982 to Spring 2010. Chapel Hill, NC
45. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 29th Annual Report. Fall 1982 to Spring 2011. Chapel Hill, NC
46. Mueller FO, **Cantu RC**: National Center for Catastrophic Sports Injury Research 30th Annual Report. Fall 1982 to Spring 2012. Chapel Hill, NC

ABSTRACTS AND FREE COMMUNICATIONS

1. Correll JW, **Cantu RC**: Effect of hypophysectomy and adrenalectomy on mobilization of free fatty acids (FFA) from isolated rat adipose tissue by nerve stimulation, in vitro. Fed Proc 1964; part 1, 23:541.
2. **Cantu RC**, Nahas GG, Correll JW, Manger WM: Effect of hypoxia and acidosis on medullary secretion from the denervated adrenal gland. Physiologist 1964; 7:99.
3. Correll JW, **Cantu RC**, Manger WM: Neural pathways mediating effects of intravascular norepinephrine administration. Physiologist 1964; 7:107.
4. Nahas GG, **Cantu RC**, Manger WM, Correll JW: Mediation of adrenal medullary secretion in response to hypotension after spinal cord section. Physiologist 1964; 7:210.
5. **Cantu RC**, Correll JW, Manger WM: Neural pathways mediating the increase in adrenal medullary secretion produced by hypoglycemia and hypotension. Pharmacologist 1964; 6:195.
6. Correll JW, **Cantu RC**, Manger WM: Mechanism for mobilization of free fatty acids by insulin-induced hypoglycemia. Fed Proc 1965; part 1, 24:298.
7. **Cantu RC**, Schwab RS: Protein-bound iodine (PBI) fall and serum ceruloplasmin (SC) rise following diphenylhydantoin administration (DA) in man. Pharmacologist 1965; 7:145.
8. **Cantu RC**, Goodman HM: Effects of denervation and fasting on lumbar fat in the rat. Fed Proc 1966; part 3, 25:271.
9. **Cantu RC**, Ames A III: Improvement of cerebral perfusion following complete ischemia. Fed Proc 1968; 27:329.
10. **Cantu RC**: Heart failure: A limiting factor in recovery from cerebral ischemia. Circulation 1968; 38, suppl VI:51.
11. **Cantu RC**, Ames A III: Distribution of cerebral vascular obstruction following ischemia. Circulation 1968; 38, suppl VI:51.
12. DiGiacinto G, **Cantu RC**, Ames A III, Dixon J: Hypotension: A limiting factor in recovery from cerebral ischemia. Clin Res 1968; 16:512.
13. Dixon J., **Cantu RC**, Ames A III, DiGiacinto G: Effect of heparin on vascular lesions caused by cerebral ischemia. Clin Res 1968; 16:513.
14. **Cantu RC**, DiGiacinto G, Dixon J, Ames A III: Reversibility of post-ischemic cerebrovascular obstruction. Clin Res 1969; 17:233.
15. DiGiacinto G, **Cantu RC**, Ames A III: Effects of hypertension on post-ischemic cerebrovascular obstruction. Clin Res 1969; 17:237.
16. **Cantu RC**, Snyder M: Effect of pharmacological agents on post-ischemic cerebrovascular obstruction. Fed Proc 1970; 29:520.
17. **Cantu RC**: Factors improving post-ischemic cerebrovascular obstruction. Stroke 1973; 4:345.
18. **Cantu RC**: Acute and chronic brain injury and contact sports. 1987; ACSM Clinical Conference, Keystone, CO.
19. **Cantu RC**: Concussion - what is it? Guidelines for returning to sports. 1987; ACSM Clinical Conference, Keystone, CO.

20. **Cantu RC**: Discogenic disease: surgical and non-surgical approaches. 1987; ACSM Clinical Conference, Keystone, CO.
21. **Cantu RC**: Medical aspects of boxing. 1987; ACSM Clinical Conference, Keystone, Co.
22. **Cantu RC**: Catastrophic Football Spine Injuries: 1977-1988. Joint Section on Disorders of the Spine and Peripheral Nerves 1990; AANS/CNS Annual Meeting, Captiva Island, FL.
23. Cunningham LM, **Cantu RC**: Is exercise intensity generalizable? Comparison of exercise test modes. MSSE 1990; 22:13.
24. Van Camp SP, Mueller FO, **Cantu RC**, Nattiv A, Eichner ER: Catastrophic sports injuries in high school and college athletes. MSSE 1994; 26:S86.
25. Mueller FO, **Cantu RC**: High school and college catastrophic pole vaulting injuries. MSSE 1995; 27:598.
26. Ross SE, Guskiewicz KW, **Cantu RC**: Balance recovery following cerebral concussion in collegiate athletes. ACSM Clinical Conference, Baltimore, MD MSSE 2001; 33:S145.
27. Guskiewicz KM, **Cantu RC**, Mueller FO, Barth, JT: Management of sports related concussion: New insights into an old problem. ACSM Clinical Conference, Baltimore, MD MSSE 2001; 33:S144.
28. Guskiewicz KM, Marshall SW, Broglio SP, **Cantu RC**, Kirkendall DT: No evidence of impaired neurocognitive performance in collegiate soccer players. ACSM Clinical Conference, Baltimore, MD MSSE 2001; 33:S186.
29. Mihalik JP, Guskiewicz KM, Marshall SW, **Cantu RC**, Blackburn JT, Greenwald RM. Effect of General On-Ice Aerobic Fitness on Head Impact Biomechanics in Youth Hockey Players. MSSE 2010

SPORTS MEDICINE EDUCATIONAL VIDEOS

- Diabetes and Exercise
Cantu, RC.
Milner-Fenwick Company; 1984
- Sports Medicine and the Primary Care Physician
Cantu RC, Siegel AJ, Childs HD.
Network for Continuing Medical Education; 1990

The preschool-sports physical, life-style modification in the well patient; special emphasis given to assisting physicians to help patients make life-style changes necessary to reap the benefits of regular physical activity.
- ACSM's Guidelines for the Team Physician
Cantu RC, Herring SA, Kibler WB, Micheli LJ, Puffer JC.
Williams & Wilkins Electronic Media; 1992

Cantu RC: "Athletic Head and Neck Injury"

• ACSM: 39th Annual Meeting
Cantu RC, Jordan BD, Sennett BJ, Micheli LJ, Hainline B.
CME Conference Video, Inc.; 1992

Cantu RC, Jordan BD: "Sports Neurology"

• ACSM Sports Medicine CAQ Review
Cantu RC, Stoller D, Saal J, Smith AD, Shoor S.
CME Conference Video, Inc.; 1993

Cantu RC: "Functional Anatomy & Biomechanics: Exam of the Patient with Low-Back Pain"

Cantu RC: "Lumbar spinal stenosis: Dx and Management"

Cantu RC "Indications for Surgery and Return to Competition After Lumbar Spine Injury"

Cantu RC: "Legal Aspects of Sports Medicine and Role of the Team Physician"

Cantu RC: "Epidemiology, Recognition, and Acute Management of Closed Head Injury/Concussion"

Cantu RC: "Return to Competition After Head Injury"

Cantu RC: "Fractures and Dislocations of Cervical Spine"

Cantu RC: "Epidemiology, Evaluation, and Treatment of Traumatic Spinal Cord Injury: Return to Competition"

Cantu RC: "Case Presentations: Transient Quadriplegia"

• ACSM/Wyeth Ayerst Laboratories
Spellbound Productions; 1994

Cantu RC: "Cervical Spine Injuries"

Cantu R, Torg J et al: "Catastrophic Head and Spine Injuries in Football"
NATA

IN PRESS

1. Terell, T et al
2. Picano J, **Cantu RC** et al. Defining Concussion: An Emperical Analysis of Concussion Reporting Using a Specific Definition of Concussion. *Clin J Sports Med* (submitted)
3. Cantu RV, **Cantu RC**. Cervical Spine chapter for Lyle Micheli due October
4. Chapter on “Concussion” *Head Trauma and Brain Injury*.

RECENT LECTURE PRESENTATIONS

- 8.13.14 Western University
“Sport Safety and Accident Reduction, Including The Establishment of Helmet Standards”
“Treatment Outcomes, Signs and Symptoms and Contemporary Treatment Strategies”
London, ON, Canada
- 7.31.14 #C4CT Concussion Awareness Summit
“Current State of Sport Concussion”
United Nations Headquarters
NYC, NY
- 7.18.14 Third Annual Western Slope Sports Medicine Clinical Symposium
“Concussion Management – Yesterday, Today, Tomorrow”
Grand Junction, CO
- 7.15.14 Hit Count Meeting
- 6.20.14 NOCSAE Summer Meeting
Boston, MA
- 6.5.14 Concord Rotary Club
“Why Youth Are At Increased Risk of Concussion”
Concord, MA
- 5.29.14 White House Concussion Summit
Washington, DC
- 5.23.14 11th Annual Sports Conference
“Practice Like Pros”
Martin Conference Center
Harvard Medical School
Boston, MA
- 5.16.14 9th Annual Brain Injury Rehabilitation Conference
“Update on Chronic Traumatic Encephalopathy”
“Management of Concussion in Student Athletes”
Liberty Station conference Center
San Diego, CA
- 5.8.14 New England Youth Concussion forum
“Concussion Past, Present, Future”
Gillette
Foxboro, MA
- 4.26.14 2014 Sports Sciences Symposium
“Concussions: The Current Concussion Lessons We Have Learned”
Hilton Orlando at Lake Buena Vista Hotel
Orlando, FL
- 4.6.14 AMSSM
“Neurological Assessment and Concussion Management”
“Breaking Backbones: Diagnosis and Management of Spinal Fractures in Athletes”
Hyatt Regency New Orleans
New Orleans, LA

3.29.14	ARP Mid Term Board Meeting Miami, FL
3.21.14	Mackey White TBI Committee Meeting Waldorf Astoria, Orlando Orlando, FL
3.17.14	Brain Injury Association of South Carolina “Short Term and Long Term Results of Repetitive Sub-Concussive and Concussive Head Injury” Columbia, SC
2.27.14	Press Conference “House Bill 5113, An Act Concerning Youth Athletics and Concussion” Hartford, CT
1.29.14	C4CT Concussion Awareness Summit “Long Term Consequences of Repetitive Brain Trauma: CTE and Neurodegeneration” United Nations NYC, NY
1.23.14-1.24.14	5 th Annual USA Rugby sports Medicine Symposium “Short Term and Long Term Results of Repetitive Sub-Concussive and Concussive Head Injury” Las Vegas, NV
1.17.14	NOCSAE Winter Board Meeting 2014 SAC Presentation Royal Palms Phoenix, AZ
1.9.14	NASCAR Meeting John Bobo, Steve O'Donnell, Jim Cassidy, Thomas Gideon, P.E., John Patalak, P.E. Daytona, FL
12.14.13	Beth Israel Deaconess Hospital “Risks for and Management of Patients with Concussions” Dedham Holiday Inn Dedham, MA
12.13.13	NCCSIR Chapel Hill, NC
11.25.13	Safe Sports Think Tank: Exploring the relationship between childhood sports-related concussions and long-term cognitive outcomes “What Should Parents Know About Short and Long-Term effect of Concussions, and Should Parents Limit Sports Activities For Children Who Have Suffered Multiple Concussions” Washington, DC
11.14.13	Press Conference Legislative Office Building Albany, NY
10.25.13	Boston Sports Medicine Symposium 2013 “How to Reduce the Risk of Concussions and CTE in Collision Sports”

	Waltham Woods conference Center Waltham, MA
10.24.13	ARP Annual conference “Relationships Between CTE and Concussive Exposure in Contact Sports” Symposium: Concussion and Action Points VDARA Hotel & Spa Las Vegas, NV
10.16.13	Annual Emerson Hospital Auxiliary “The Concussion Crisis: Where Are We Today?” Nashawtuc Country Club Concord, MA
10.4.13	Reading Hospital Grand Rounds “Concussion Crisis in Youth Sports” Thun/Janseen Auditorium West Reading, PA
9.26.13	Belmont Hill School “Concussion Update” Belmont, MA
9.17.13	Emerson Hospital Cooperator Dinner “The Concussion Crisis in 2013” Emerson Hospital Concord, MA
9.12.13	Fourth Annual Sports Law & Ethics Symposium Santa Clara, CA
8.18.13	LA84 Foundation “The Concussion Crisis in Youth Sports” Los Angeles, CA
8.10.13	Massachusetts Coaches’ Association “Practice Like Pro’s” Worcester, MA
7.13.13	AOSSM 2013 Annual Meeting Sheraton Chicago Hotel & Towers Chicago, IL
6.28.13	NOCSAE Summer Board Meeting Fairmont Olympic Hotel Seattle, WA
5.17.13	10 th Annual Sports-Related Conference on Concussion and Spine Injury “Cervicogenic Headache, Upper Cervical Spine” Martin conference Center at Harvard Medical School Boston, MA
4.24.13	Mackey-White TBI Committee Meeting Westin Grand Central New York, NY

4.11.13	New England Patriots Alumni Club, Inc. CBS Scene, Patriots Place Foxboro, MA
4.10.13	SLI Reception Boston Harbor Hotel Boston, MA
4.8.13	NOCSAE SAC Meeting Westin Atlanta Airport Hotel Atlanta, GA
3.22.13	8 th Annual Brain Injury Rehabilitation Conference “The Concussion Crisis-Later Life Consequences” “Why We Need to Re-Think How Youth Sports Are Played” Sheraton Carlsbad Resort Carlsbad, CA
3.9.13	Second Matthew Gfeller Neurotrauma Symposium “Are Professional Sports Athletes Different From the Rest?” Chapel Hill, NC
1.27.13	NOCSAE Board Meeting SAC Presentation Fairmont Olympic Hotel Seattle, WA
12.1.12	APR Winter Board Meeting Atlantic City, NJ
11.16.12	NOCSAE Grant Meeting Chapel Hill, NC
11.14.12	“Concussion and Our Kids” Park School of Baltimore Baltimore, MD
11.4.12	4 th International Consensus Conference on Concussion in Sport Writing Group FIFA House Zurich Switzerland
10.31.12 - 11.4.12	4 th International Consensus Conference on Concussion in Sport “The NFL and Brain Safety First Since Zurich 2008” FIFA House Zurich Switzerland
10.27.12	Boston Sports Symposium “Protecting the Athlete’s Brain” Waltham Woods Conference Center Waltham, MA
10.26.12	2012 Brain Trauma and the Athlete Conference “Case Presentations and Discussion of Concussion, Post-Concussion Syndrome

- And CTE”
The Conference Center at Bentley College
Waltham, MA
- 10.26.12 2012 Brain Trauma and the Athlete Conference
“Graduated Return to Play and Academics”
The Conference Center at Bentley College
Waltham, MA
- 10.26.12 2012 Brain Trauma and the Athlete Conference
“Pathophysiology and Biomechanics of Concussion, Head Injury, and
Second Impact Syndrome”
The Conference Center at Bentley College
Waltham, MA
- 10.25.12 2012 Hit Count Symposium
“Evidence of Dose-Related Brain Damage and Disease-Is there a Threshold?”
Waltham, MA
- 10.13.12 Eighteenth Annual Brain Injury Symposium
Keynote Speaker
“Short and Long-term Consequences of Repetitive Head Trauma, Post Concussion
Syndrome – CTE Chronic Traumatic Encephalopathy”
JW Marriott Hotel
Miami, FL
- 10.12.12 2nd Annual Conference Concussion in Athletics: From Brain to Behavior”
“Consequences of “Ignorance & Arrogance” in accurate assessment of sport-related
Concussions”
Penn State University, PA
- 9.30.12 Cleveland Clinic Lou Ruvo Center for Brain Health
“Chronic Traumatic Encephalopathy (CTE) Conference 2012”
“CTE in the NFL: What Changes Have Been Made and What More Needs to be Done?”
Frank Gehry – designed Keep Memory Alive Center
Las Vegas, NV
- 8.15.12 St. Mary’s Healthcare
Gloversville High School
“Short and Long-term Consequences of Repetitive Head Trauma, Post Concussion
Syndrome – CTE Chronic Traumatic Encephalopathy”
Gloversville, NY
- 8.15.12 St. Mary’s Healthcare
Amsterdam High School\
- “Short and Long-term Consequences of Repetitive Head Trauma, Post Concussion
Syndrome – CTE Chronic Traumatic Encephalopathy”
Amsterdam, NY
- 7.19.12 Center for the Study of Traumatic Encephalopathy
Presentation to President BU
- 6.14.12 NOCSAE Board Meeting
NOCSAE Scientific Advisory committee Report to the Board

Intercontinental Hotel
Kansas City, MO

- 6.1.12 ARP Annual Meeting
“Concussion and Head Trauma in Martial Arts”
San Francisco Marriott Marquis
San Francisco, CA
- 5.26.12 Congress AQMS 2012
“Concussion Update 2012”
Grenville-sur-la-Rouge
Montreal Canada
- 5.18.12 Children’ Hospital Annual Sports Medicine Meeting
Sports-Related Conference on Concussion and Spine Injury
“Prevention of Concussion: What Works, What Doesn’t”
Joseph B. Martin Conference Center
Boston, MA
- 5.11.12 Injuries in Football 2012
“Head and Spine Injuries in Football: Concussion: Where are We Now”
Andrews Institute
Destin, FL
- 4.24.12 FC Stars of MA
“Concussion Prevention”
Nashawtuc Country Club
Concord, MA
- 4.23.12 National School Board Association Meeting
“Head Injuries”
Boston Convention Center
Boston, MA
- 4.18.12 NOCSAE Retreat
Westin Atlanta Airport
Atlanta, GA
- 4.13.12 Emerson Hospital Grand Rounds
“Current Concepts and Future Trends in Concussion Evaluation, Management and Treatment”
Assembly Room A/B
Emerson Hospital
Concord, MA
- 4.11.12 FC Stars of MA
“Concussion Prevention”
Nashawtuc Country Club
Concord, MA
- 3.26.12 NFLPA Annual Meeting
Mackey-White Traumatic Brain Injury Committee
Marco Island Marriott
Marco Island, FL
- 3.23.12 2012 Harvard Law Sports Symposium
“Concussion Crisis in Professional Sports”

Panelist
Harvard Law School
Cambridge, MA

- 3.23.12 Parker Memorial DBP CME Program BU/BMC
“Youth Concussions: Diagnosis, Management Including Return to Play and Prevention”
Boston University School of Medicine
Boston, MA
- 3.21.12 FC Stars of MA
“Concussion Prevention”
Nashawtuc Country Club
Concord, MA
- 3.18.12 NHL Meeting
New York, NY
- 3.11.12 APR Meeting
JW Marriott
Indianapolis, IN
- 2.25.12 Professional Football Chiropractic Meeting
“Concussion Management: Short and Long-term Consequences of Mismanaging a Concussion”
Indianapolis, IN
- 2.25.12 Professional Football Chiropractic Meeting
“Catastrophic and Long-Term Outcomes After Traumatic Brain Injury”
Indianapolis, IN
- 1.28.12 LifeBridge Health Concussion Symposium
“Chronic Effects of Concussive Injury”
Sinai Hospital of Baltimore Zamoiski Auditorium
Baltimore, MD
- 1.25.12 Syracuse Neuroscience Grand Rounds
“Short and Long Term Consequences of Mismanaging a Concussion”
Upstate Medical University
Syracuse, NY
- 1.21.12 NOCSAE Board Meeting
SAC Report to Board of Trustees
Royal Palms
Phoenix, AZ
- 1.7.12 Eastern Athletic Trainers Association
“Concussion Update”
Copley Plaza
Boston, MA
- 12.10.11 Beth Israel Deaconess Hospital Core Curriculum Series
“Traumatic Brain Injury: From Concussions to More Severe Injuries”
Dedham Holiday Inn
Dedham, MA
- 12.9.11 Retired Men’s Association
“Concussion Update”

	First Baptist Church Sudbury, MA
12.5.11	Congressional Hearings Testimony NOCSAE Congress Washington, DC
11.17.11	Hyannis Rotary Club Luncheon “Concussion Crisis” Hyannis Country Club Hyannis, MA
11.14.11	NOCSAE Youth Football Helmet Meeting Westin Atlanta Airport Atlanta, GA
11.4.11	Boston Shoulder and Sports Symposium 2011 “Concussion Update” Conference Center at Waltham Woods Waltham, MA
10.28.11	2011 Brain Trauma and Athletic Conference Boston University Center for the Study of Traumatic Encephalopathy “Return to Play Guidelines and Step-by-step Clinical Recommendations” Framingham Sheraton Framingham, MA
10.27.11	APR Annual Meeting “Chronic Traumatic Encephalopathy” Omni Orlando Resorts Championship Gate Orlando, FL
10.24.11	Harvard University Lunch Time Learning Talk “The neurophysiological cascade of concussion and brain damage – what is going on in the gray/white matter? Brain stem trauma – shearing/tearing – CNS damage from whiplash direct blows Murr Center, Harvard University Boston, MA
9.26.11	2011 Boston Public Schools Advanced Concussion Training “Concussion Management for Coaches” Northeastern University Boston, MA
9.22.11	Athletics Committee Williams College “New Trends in Concussion Management” Williams College Williamstown, MA
9.22.11	Athletics Committee Williams College “Concussion for Coaches and Trainers” Williams College Williamstown, MA

- 9.21.11 Grand Rounds Haywood Hospital
“Current Evaluation and Management of Concussion”
Henry Haywood Hospital
Gardner, MA
- 7.23.11 1st Annual USOC Sports Medicine Symposium
“Keynote Presentation: Current Concepts and Future Trends in Concussion Evaluation,
Management, and Treatment
Olympic Training Center
Colorado Springs, CO
- 7.17.11 ATSNJ 2nd Annual Sports Concussion Summit
“Keynote Presentation: Long-Term Effects of Concussion
Wyndham Princeton Forrestal Village
Plainsboro, NJ
- 6.17.11 NOCSAE Board Meeting
“Report of the Scientific Advisory Committee Meeting of 4.22.11
Carolina Inn
UNC Chapel Hill
- 6.4.11 2011 Jacksonville Concussion Summit
“Concussion Management in your Community”
Brooks Rehabilitation Hospital
Jacksonville, FL
- 6.4.11 2011 Jacksonville Concussion Summit
“Concussion 101”
Brooks Rehabilitation Hospital
Jacksonville, FL
- 5.28.11 Canadian Athletic Trainers Association Annual Meeting
“Chronic Traumatic Encephalopathy”
Banff, Alberta Canada
- 5.27.11 Sports-Related Conference on Concussion & Spine Injury
“How the NFL Has Become a Leading Concussion Advocate”
Fenway Park
Boston, MA
- 5.7.11 Sports Related Concussion and Cervical Spine Injury Symposium
“Everything You Wanted to Know About Sports Related Concussion:
Epidemiology/Incidence/Research”
Rust Auditorium – North Shore University Hospital
Manhasset, NY
- 5.6.11 Andrews Institute “Injuries in Football” Conference
“Concussion: More Than Just a Headache”
Destin, FL
- 4.30.11 Inaugural UNC Matthew Gfeller Center Sport-Related Neurotrauma Symposium
“Catastrophic and Long-Term Outcomes of TBI”
UNC Chapel Hill

- 4.30.11 Inaugural UNC Matthew Gfeller Center Sport-Related Neurotrauma Symposium
“Pharmacological Interventions and Return-To-Play After Spinal Injury”
UNC Chapel Hill
- 4.29.11 Head Injury Symposium: Stunts & Tumbling, Cheerleading and other female sports
“Keynote Message, The Latest on the Concussion Crisis”
Omni Parker House Hotel
Boston, MA
- 4.22.11 NOCSAE Scientific Advisory Committee Meeting
Westin Atlanta
Atlanta, GA
- 4.1.11 MMS and DPS Sports Concussion Symposium and State Laws
“Concussion Management and Prevention”
Mass Medical Society Conference Room
Waltham, MA
- 3.23.11 RI Primary Care Physicians Corporation
“Concussion Management – New Strategies”
Crowne Plaza
Warwick, RI
- 3.19.11 Massachusetts Neurology Society
“Traumatic Brain Injury – Pathophysiologic Mechanisms”
Newton Marriott
Newton, MA
- 2.26.11 Joint Commission on Sports Medicine and Science
“Boxing Policy/Legislation: How it Can Be Improved”
Philadelphia Convention Center
Philadelphia, PA
- 2.26.11 Joint Commission on Sports Medicine and Science
“Concussion Landscape”
Philadelphia Convention Center
Philadelphia, PA
- 2.25.11 NFL Players Association Mackie/White TBI Committee
“Concussion and the Role of the Helmet”
Conrad Hotel
Indianapolis, Indiana
- 02.02.11 39th Annual INS Meeting
“Chronic Traumatic Encephalopathy: Long-term Consequences of Repetitive Brain Trauma”
Boston, MA
- 1.14.11 Washington DC Children’s Hospital
National Forum on Youth Sport Concussion Taking Action State by State
“The Concussion Landscape”
Children’s National Medical Center
Washington, DC
- 1.11.11 Brigham Young University College of Life Sciences
Sports Concussion and Brain Injury Seminar

- “Brain Injuries and Concussions”
Brigham Young University, Provo, UT
- 12.13.10 NFL Players Association Meeting
Mackey-White TBI Committee Members
Washington, DC
- 12.8.10 NFL Meeting
“NOCSAE: Current and future helmet standards
NYC, NY
- 11.18.10 Retired Athletes Meeting
Chapel Hill, NC
- 11.10.10 Get aHead Workshop: Emerging Knowledge and Significance of Sports-Related Concussions
“International Perspective On Concussions”
Dartmouth-Hitchcock Medical Center
Hanover, NH
- 11.04.10 AAPRP Annual Meeting The Brain and Neck In Boxing and Related Sports
“Concussion Definitions and Clinical Manifestations
Omni Orlando Resort at ChampionsGate
Orlando, FL
- 11.01.10 Hockey Concussion in Canada
Hockey Concussion Education Project (HCEP) – an Independent Physicians’ Study –
Presentation of findings – Press Conference
InterContinental Toronto Centre – Ontario Room
Toronto, Canada
- 10.29.10 Boston Shoulder and Sports Symposium 15th Annual
“Update Athletic Head and Neck Injuries”
Mass Medical Society Conference Center
Waltham, MA
- 10.20.10 Ice Hockey Summit: Action on Concussions
“Incorporating Hockey and Medical Knowledge with Action Items for Prevention”
Mayo Clinic
Rochester, MN
- 10.13.10 Lincoln Sudbury Regional High School Sports Conference
“Concussion in Sports Update”
LSRHS Auditorium
Sudbury, MA
- 10.5.10 “Gender and Age Effects On Concussion”
22nd Annual Ironman Sports Medicine Conference in Conjunction with the 2010
Ford Ironman World Championships
Royal Kona Resort
Kailua-Kona, HI
- 10.5.10 “Overview of Sports Related Concussion”
22nd Annual Ironman Sports Medicine Conference in Conjunction with the 2010
Ford Ironman World Championships

Royal Kona Resort
Kailua-Kona, HI

- 10.1.10 BU Second Annual Head Trauma in the Athlete Conference
Massachusetts Medical Society Auditorium
Waltham, MA
- 9.23.10 Emerson Hospital Youth Sports Injury Symposium
Concussions in Sports
Concord Carlisle High School Auditorium
Concord, MA
- 9.22.10 New Hampshire Pediatric Society
“Concussion Recognition, Management and Long term Sequellae”
SERESC Conference Center
Bedford, NH
- 9.15.10 Brigham and Women’s Hospital CORE Meeting
“Head Injuries and Athletes and Return to Play”
Brigham and Women’s offsite at Chestnut Hill
Chestnut Hill, MA
- 8.21.10 Athletic Trainers Association of New Jersey Concussion Summit
“Management of Concussion 2010”
Philadelphia, PA
- 6.28.10 “Coaches and Concussion”
Hooksett, NH
- 6.17.10 “Physical Fitness and Sports Medicine – Post Concussion”
“Short and Long Term Consequences of Mismanaging Concussion”
8th Annual Symposium on Men’s Health
Mass Medical Society Headquarters
Waltham, MA
- 6.12.10 United States Sports Academy
2009 United States Sports Academy Ernst Jokl Sports Medicine Award Presentation
To Dr. Robert Cantu
Harvard University
Cambridge, MA
- 5.18.10 Association of Chief Executives of Sport
“Short and Long Term Consequences of Mismanaging Concussion”
Antlers Hilton Hotel
Colorado Springs, CO
- 5.14.10 “What is a Concussion? Current Consensus Guidelines”
The Seventh Annual Sports-Related Conference on Concussion & Spine Injury
Presented by Brigham and Women’s Hospital
Fenway Park
Boston, MA
- 5.7.10 Keynote Speaker
“Chronic Traumatic Encephalopathy”

Neurology in the News
The University of Toledo, Department of Neurology and Center for Continuing Medical Education
Eleanor N. Dana Conference Center – University of Toledo
Toledo, Ohio

- 4.29.10 “Concussion in Sports Presentation at the CDC”
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention
Atlanta, GA
- 4.26.10 “2010 Sports and Society Colloquium”
Brown University, Salomon Hall
Providence, RI
- 4.22.10 “Short and Long Term Consequences of Mismanaging an Athletic Concussion”
2010 Injuries in Football Course
Andrews Institute
Pensacola, FL
- 4.8.10 “Short and Long Term Consequences of Mismanaging Concussion”
Massachusetts General Hospital Neurosurgery Grand Rounds
Ether Dome, MGH
Boston, MA
- 4.7.10 “Short and Long Term Consequences of Mismanaging a Concussion”
Boston University Grand Rounds
Boston University School of Medicine Continuing Medical Education
Boston, MA
- 3.12.10 “The Triad of Symptomatic Concussion, Second Impact Syndrome and Thin Subdural Hematoma”
Is Football Bad for the Brain?
Forensic Scientific, Medical-Legal and Societal Aspects of Concussion Debate
The Cyril H. Wecht Institute of Forensic Science and Law
- 3.12.10 “Update on NFL Concussion Committee Experiences”
Is Football Bad for the Brain?
Forensic Scientific, Medical-Legal and Societal Aspects of Concussion Debate
The Cyril H. Wecht Institute of Forensic Science and Law
- 3.7.10 “Interactive Case Studies
Youth Sports Concussions: Education to Legislation
Kane Hall Rm 130
University of Washington Campus
Seattle, Washington
- 3.6.10 Keynote Speaker
“Chronic Traumatic Encephalopathy”
Youth Sports Concussions: Education to Legislation
Kane Hall Rm 130
University of Washington Campus
Seattle, Washington

- 2.18.10 “The Short and Long Term Consequences of Mismanaging Concussion”
Concussion and Mild Traumatic Brain Injury: Update 2010
CSM Annual Meeting
Omni San Diego Hotel
San Diego, CA
- 1.26.10 NFL Players Association Concussion Committee
Medical Committee
Breakers
Palm Beach, FL
- 1.9.10 “Concussions”
Eastern Athletic Trainers Association Annual Meeting
Marriott Copley
Boston, MA
- 11.10.09 “Managing Concussion”
Pediatric Brain Injury Conference – BIA-MA
Best Western Royal Plaza
Marlborough, MA
- 11.6.09 “Panel Discussion on TBI”
Partnership for Military Medicine Symposium
Omni Shoreham Hotel
Washington, DC
- 10.30.09 “Concussions”
Fourteenth Annual Boston Shoulder and Sports Symposium 2009
Conference Center
Waltham Woods, Waltham, MA
- 10.29.09 CNN - Lou Dobbs
“Testimony before U.S. House Judiciary Committee”
Time Warner Building – CNN Headquarters, NYC
New York, NY
- 10.29.09 “Testimony Before U.S. House Judiciary Committee – Hearing on Legal Issues Relating
To Football Head Injuries”
Rayburn Building
Washington, DC
- 10.16.09 “Study of Traumatic Encephalopathy”
The American Association of Professional Ringside Physicians, Inc.
2009 Annual Medical Seminar
Mohegan Sun
Uncasville, CT
- 10.2.09 Welcoming Remarks
“Overview of Current Concussion Consensus Statements Including Zurich Conference”
Concussion and the Athlete
Boston University Medical Center School of Medicine Continuing Education
Gillette Stadium, Foxboro, MA

- 10.2.09 “Panel Discussion”
Concussion and the Athlete
Boston University Medical Center School of Medicine Continuing Education
Gillette Stadium, Foxboro, MA
- 10.2.09 “Chronic Traumatic Encephalopathy and the Athlete – Update from the Center for the Study
Of Traumatic Encephalopathy”
Concussion and the Athlete
Boston University Medical Center School of Medicine Continuing Education
Gillette Stadium, Foxboro, MA
- 9.3.09 “Traumatic Brain Injury in Sports: When Can the Athlete Return to Play?”
XIV World Congress of Neurological Surgery of the WFNS
Boston, MA
- 6.18.09 “The Concussion Dilemma: Are We Headed in the Right Direction”
60th NATA Annual Meeting and Clinical Symposia
Henry B. Gonzalez Convention Center
San Antonio, TX
- 5.27.09 “Managing Sports Related Concussion in the Youth and Adolescent Athlete”
American College of Sports Medicine Annual Meeting
Seattle, WA
- 5.20.09 “Overview of Sports Concussion Consensus Statements and Chronic Traumatic
Encephalopathy”
Brain Injury Association of New Hampshire 26th Annual Brain Injury and Stroke Conference
Radisson, Manchester, NH
- 5.15.09 “Playing with Post Concussion Symptoms: Alarming Rates and Prevalence”
3rd Annual National Summit on Concussion and Other Sports Medicine Injuries
Westin Hotel LAX
Los Angeles, CA
- 5.15.09 “What Should a Concussion Evaluation Consist Of”
3rd Annual National Summit on Concussion and Other Sports Medicine Injuries”
Concurrent Afternoon Session
Westin LAX
Los Angeles, CA
- 5.14.09 Keynote Address:
College Athletic Trainers’ Society
2009 Spring Symposium for Athletic Trainers and Team Physicians
The Orleans Hotel and Casino
Las Vegas, Nevada
- 5.9.09 “Concussion Management: Yesterday, Today and Tomorrow”
Sanford Sports Medicine Symposium
Sanford University South Dakota Medical Center
Sioux Falls, South Dakota
- 5.9.09 “Return to Play Issues Following Cervical Spine Injury”
Sanford Sports Medicine Symposium
Sanford University South Dakota Medical Center
Sioux Falls, South Dakota

- 5.9.09 “Catastrophic and Long Term Effects of Concussion”
Sanford Sports Medicine Symposium
Sanford University South Dakota Medical Center
Sioux Falls, South Dakota
- 5.9.09 “On-the-Field Management of the Concussed Athlete”
Sanford Sports Medicine Symposium
Sanford University South Dakota Medical Center
Sioux Falls, South Dakota
- 5.1.09 “Overview: Current Concussion Guidelines from the International Study Group”
6th Annual Sports Conference
BWH Hospital Conference
Fenway Park
Boston, MA
- 4.27.09 “Coaches Education Initiative”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.27.09 “Celebrity Athletes – Is Management the Same?”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.27.09 “Legal Case Discussion Sport and the Law”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.21.09 “Traumatic Brain Injury & Physiological Disorders Facing Athletes Post Performance”
Summit on Health of the Former Professional Athlete
LaQuinta Spa and Resort
Palm Springs, CA
- 4.13.09 “Pharmacological Interventions in Management of Spine Injuries”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.13.09 “Return to Play After Spinal Injury”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.13.09 “Spine Injuries and Contraindications to Participation in Collision Sports”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 4.5.09 “Current Concussion Classification and Return to Play Criteria”
First Annual Spring Current Concepts in Sports Related Concussions Symposium

Athletic Trainer Solutions
St. Paul Catholic High School
Bristol, CT

- 3.16.09 “Overview of Injury Types and Associated Complications”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 3.16.09 “Anatomy and Biomechanics of Spine Injuries in Sport”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 3.16.09 “Spine Injuries – Which Sports are at Greatest Risk and Why?”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 2.16.09 “Case Studies”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 2.16.09 “Parkinson’s Disease”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 2.16.09 “Chronic Traumatic Encephalopathy”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 2.16.09 “Post Concussion Syndrome”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.27.09 Press Conference
Chronic Traumatic Encephalopathy
In Association with the Super Bowl
Tampa, Florida
- 1.26.09 “Anatomical Dissection of the Brain”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.26.09 “Headaches in the Athlete”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.26.09 “Epilepsy and Athletics”
Neurologic Head and Spine Injuries Semester Course Lecture

University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC

- 1.26.09 “Stroke in Athletes”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.26.09 “Malignant Brain Edema and Second Impact Syndrome”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.26.09 “Intercerebral Hematoma”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.17.09 “Current Testing and Return to Play Issues/Guidelines – Zurich Update”
London Hockey Concussion Summit
London Hilton Hotel
London, Ontario, Canada
- 1.12.09 “Ionic and Metabolic Consequences of Concussion”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.12.09 “Athletic Head Injuries – Which Sports are at Greatest Risk and Why?”
Neurologic Head and Spine Injuries Semester Course Lecture
University of North Carolina – Doctorate Program Presentation
Chapel Hill, NC
- 1.9.09 “Post Concussion Syndrome and Traumatic Encephalopathy”
Emerson Hospital Medical Staff Clinical Conference
Emerson Hospital, Concord, MA
- 1.6.09 “Post Concussion Syndrome and Traumatic Encephalopathy”
Boston University Grand Rounds Presentation
Boston, MA
- 10.30-31.08 “Is Immediate Return to Play in the Same Game Ever Justified?”
3rd International Conference on Concussion in Sport
Hotel Zurichberg
Zurich Switzerland
- 10.18.08 “Pituitary Dysfunction in Professional Boxing and the National Football League”
2008 Annual Medical Seminar, AAPRP
Paris/Bally’s Resort & Casino
Las Vegas, Nevada
- 10.3.08 “Return to Boxing After Subdural Hematoma – When?”
World Boxing Association Medical Seminar, 87th Annual Convention
Hotel Barcelo Bavaro Palace

Punta Cana, Dominican Republic

- 9.18.08 “Traumatic Brain Injury and Shaken Baby Syndrome”
14th International Conference Child Abuse Allegations: Separating Scientific Fact from Fiction
Riviera Hotel and Casino
Last Vegas, NV

- 7.24.08 “Preventive Aspects of Sports Concussion”
New Developments in Sports-Related Concussion Conference
Sheraton Station Square
Pittsburgh, PA

- 6.21.08 “Concussion in Sports”
New York State Public High School Athletic Association (NYSPHSAA)
Saratoga, NY

- 6.11.08 “Neurotrauma in Sports”
Symposium on the Prevention of Spinal Cord Injuries and Concussions in Hockey
Hockey Hall of Fame
Toronto, Canada

- 5.28.08 “Neuropsychological Assessment of the Concussed Athlete: Only One Piece of the Concussion
Puzzle”
ACSM 55th Annual Meeting
Indianapolis, IN

- 5.9.08 “Concussion in Women Athletes”
2008 Sports Related Conference on Concussion and Spine Injury
Brigham and Women’s Hospital
Fenway Park
Boston, MA

- 5.3.08 “Concussion in Sports”
The Hill School
Pottstown, PA

- 5.1.08 “Concussion and High School Sports, Risks and Management”
Arlington High School
Arlington, MA

- 4.19.08 “Concussion in Sports: Does Gender Matter?”
The National Concussion Summit
Concussion in Sports: Advancing Health and Safety
Marriott Hotel
Marina del Rey, CA

- 4.18.08 “Concussion in Sports: Does Gender Matter?”
The National Concussion Summit
Concussion in Sports: Advancing Health and Safety
Marriott Hotel
Marina del Rey, CA

- 4.3.08 “Concussions and Sports”

Winchester High School
Winchester, MA

- 3.13.08 “Clinical Models for Concussion Management and Return to Play”
Fourth International Meeting on Minor Traumatic Brain Injury in Sports
Hotel Crystal, St. Moritz, Switzerland
- 3.8.08 “Concussions and the Sports Legacy Institute”
Joint Commission on Sports Medicine and Science 2008
New Orleans Hilton Riverside
New Orleans, LA
- 12.13.07 “Current Advances in Concussion Management/Traumatic Encephalopathy”
Grand Rounds
Brigham and Women’s Hospital
Boston, MA
- 11.29.07 “Concussion in Sports”
Two presentations to student assemblies
Concord Carlisle High School
Concord, MA
- 11.28.07 “Concussion and Sports”
Presentation for parents, coaches, trainers, nurses and physicians
Concord Carlisle High School
Concord, MA
- 11.26.07 “Chronic Traumatic Encephalopathy/Concussion”
Boston Medical Center Grand Rounds
Boston Medical Center
Boston, MA
- 11.29.07 “Update Baby Joe Mesi”
Medical Advisory Board Meeting
Massachusetts Boxing Commission
McCarthy Building
Boston, MA
- 11.29.07 “More Than Just a Bump on the Head”
Concord Carlisle High School Students Presentation
Two Presentations One hour each to student body
Concord, MA
- 11.28.07 “More Than Just a Bump on the Head”
Concord Carlisle High School Parents Presentation
Concord, MA
- 11.26.07 “Concussion and Sports Related Head Injury”
Neurosurgery/Surgery Grand Rounds
Boston University Medical Center
Boston , MA
- 11.15.07 “Joe Mesi Update”
AAPRP Annual Meeting

Intercontinental Hotel and Resort
San Juan, Puerto Rico

10/29/07	<p>“Concussion in High School” Woburn High School Woburn, MA</p>
10/26/07	<p>“Concussion and Sudden Death: Coping With Two Crises” Independent School Health Association Annual Meeting New Canaan Country School New Canaan, CT</p>
9/27/07	<p>“Concussions in High School” Austin Prep School Reading, MA</p>
9/24/07	<p>“The Concussion Crisis in Football” U Mass Lowell Athletic Department Meeting McGauvran Hall Lowell, MA</p>
9/17/07	<p>“History of Concussion and Second Impact Syndrome” New Hampshire Interscholastic Athletic Association Annual Meeting Courtyard by Marriott Concord, NH</p>
7/13/07	<p>“Concussion/Brain” The American Orthopedic Society for Sports Medicine Annual Meeting TELUS Convention Center Calgary, Canada</p>
7/12/07	<p>“Spine Instructional Course” The American Orthopedic Society for Sports Medicine Annual Meeting TELUS Convention Center Calgary, Canada</p>
6/1/07	<p>The D.B. Historical Lecture “The Evolution of Sports-related Concussion Recognition, Management and Prevention: The Science, the Art and the Politics.” Annual Meeting ACSM New Orleans, Louisiana</p>
5.5.07	<p>“Concussion: How to make the diagnosis and Overview of Current Concussion Consensus Statements” Sports Specific Rehabilitation Program High Performance Sports, Inc. Peabody, MA</p>
4/30/07	<p>“Concussion Management and Diagnosis” New England University Medical Department Seminar New England University Biddeford, ME</p>

4/27/07 “Overview of Current Concussion Consensus Statement”
2007 Sports Related Conference on Concussion and Spine Injury
Fenway Park
Boston, MA

4.20.07 “Traumatic Encephalopathy Among NFL Players”
The National Concussion Summit. Concussion in Sports: The Under-Recognized Public
Epidemic
The Marriott Hotel
Los Angeles, CA

4/20/07 “Concussion in Sports: State of the Science - Discussant
The National Concussion Summit: Concussion in Sports: The Under-Recognized Public
Epidemic
The Marriott Hotel
Los Angeles, CAS

4/18/07 “Argument to Ban Boxing – Analysis of Neurological Injury”
75th Annual Meeting of the American Association of Neurological Surgeons
Washington, DC

3/15/07 “Can the Recognition and Treatment of Hypopituitarism After mTBI Influence Post Concussion
Syndrome”
Third International Meeting on Minor Traumatic Brain Injuries in Sports
St. Moritz, Switzerland

3/14/07 “How Many Concussion Are Too Many”
Third International Meeting on Minor Traumatic Brain Injuries in Sports
St. Moritz, Switzerland

12/8/06 “Cervical Spine Return to Play Issues”
ACSM - Advanced Team Physician Course
Omni Orlando Resort at Championsgate
Orlando, FL

12/8/06 “MBTI Return to Play Issues”
ACSM Advanced Team Physician Course
Omni Orlando Resort at Championsgate
Orlando, FL

11/9/06 “Concussion Management”
Acute Management of Mild Traumatic Brain Injury in Military Operational Settings
Department of Defense Meeting
Washington, DC

10/24/06 “A Case of Concussion in Pop Warner Football”
Playing It Safe
Brain Injury Association of Massachusetts Sports Injury Conference
Best Western Royal Plaza Hotel
Marlborough, MA

9/15/06 “Intracranial Bleeding in Boxing/The Joe Mesi Story Round 3”
American Association of Professional Ringside Physicians

2006 Annual Medical Seminar
Luxor Hotel and Casino
Las Vegas, NV

9/9/06	“Neurosurgery Head and Neck Injury Update” Emerson Hospital Fall Sports Primer Harvey Wheeler Community Center Concord, MA
05/19/06	Case Presentations Sports Related Concussion and Spine Injury Conference 2006 Brigham and Women’s Neurological Injury Center Fenway Park Boston, MA
05/13/06	“Management of Cervical Injuries and Related Disorders” Sports Medicine and Football: The 2006 Perspective AOSSM Meeting Seminole Hard Rock Hotel and Casino Hollywood, FL
05/12/06	Physical Examination Spine Sports Medicine and Football: The 2006 Perspective AOSSM Meeting Seminole Hard Rock Hotel and Casino Hollywood, FL
03/10/06	“Return to Boxing After Intracranial Hemorrhage” USA Boxing Physician Symposium 2006 US Olympic Training Center Colorado Springs, CO
03/10/06	“Acute and Chronic Brain Injuries in Boxing” USA Boxing Physician Symposium 2006 US Olympic Training Center Colorado Springs, CO
03/07/06	“Acute TBI Assessment and Secondary Prevention” Armed Forces Epidemiological Board Meeting Armed Forces Medical Intelligence Center Fort Detrick Frederick, MD
02/24/06	“Evolution of the Understanding of Concussion” Concussion in Youth Sports Summit Brain Injury Association of New Jersey Stadium Club at Giants Stadium Rutherford, NJ
10/28/05	“PASSOR: Sub-Acute Assessment and Management: Grading Systems: Initial Symptom Management: Second Impact Syndrome: When to Order Imaging” American Academy of Physical Medicine and Rehabilitation 2005 Annual Assembly Philadelphia Marriott Downtown

Philadelphia, PA

- 10/28/05 “PASSOR: Concussion/Mild Traumatic Brain Injury: Return to Play and Function Decision Making”
American Academy of Physical Medicine & Rehabilitation
2005 Annual Assembly
Philadelphia Marriott Downtown
Philadelphia, PA
- 10/27/05 “PASSOR: Vienna Conference Update and Future Decisions: Meet the Experts”
American Academy of Physical Medicine & Rehabilitation
2005 Annual Assembly
Philadelphia Marriott Downtown
Philadelphia, PA
- 6/25/05 “Catastrophic Spine Injury in American Football – effect of athlete education and rule change”
1st World Congress on Sports Injury Prevention
Holmenkollen Park Hotel
Oslo, Norway
- 5/20/05 “What’s New in Concussion Research and Overview of Prague Concussion Consensus Statement
Brigham and Women’s 2nd Annual Sports Medicine Symposium
Gillette Stadium
Foxboro, MA
- 5/20/05 “NATA/AFCA Spearing in Football Task Force Recommendations”
Brigham and Women’s 2nd Annual Sports Medicine Symposium
Gillette Stadium
Foxboro, MA
- 5/13/05 “Concussion in Sports”
Mass Academy of Family Physicians Annual Meeting
Fort Point Sheraton
Leominster, MA
- 4/30/05 “Interesting Sport Medicine Cases of Concussion in Athletes”
Concussion in Sports Conference
Penn State University
The Penn Stater Conference Center Hotel
University Park, PA
- 4/29/05 “Concussion Classification: Scales and Categories”
Concussion in Sports Conference
Penn State University
The Penn Stater Conference Center Hotel
University Park, PA
- 3/10/05 “Catastrophic Spinal Injuries in Football”
5th Annual Sports Medicine and Neurotrauma Review

Portofino Bay Hotel
Orlando, FL

3/10/05	“Management of Difficult Spine Cases In Athletes” 5 th Annual Sports Medicine and Neurotrauma Review Portofino Bay Hotel Orlando, FL
3/12/05	“When to Retire After a Concussion” 5 th Annual Sports Medicine and Neurotrauma Review Portofino Bay Hotel Orlando, FL
3/12/05	“Can Second Impact Syndrome Be Eliminated?” 5 th Annual Sports Medicine and Neurotrauma Review Portofino Bay Hotel Orlando, FL
3/12/05	“Recommendations from 2004 NATA Position Statement” 5 th Annual Sports Medicine and Neurotrauma Review Portofino Bay Hotel Orlando, FL
3/12/05	“2004 Prague International Concussion Conference Consensus Statement” 5 th Annual Sports Medicine and Neurotrauma Review Portofino Bay Hotel Orlando, FL
3/15/05	“Concussion, Head and Neck Injuries” Spring Sports Primer Emerson Hospital/Harvey Wheeler Community Center West Concord, MA
2/9/05	“Alanto-Occipital Dislocation – A Largely Preventable Previously Fatal Injury” Motorsports Safety Conference American College of Sports Medicine Team Physician Pre Conference Course Hyatt Regency on the Boardwalk San Antonio, TX
11/5/04	“National Football League (NFL) and NCAA Football Study” IIHF Meeting Second International Symposium on Concussion in Sport Prague, Czech Republic
11/6/04	“How can we prevent diffuse brain swelling/SIS in children?” IIHF Meeting Second International Symposium on Concussion in Sport Prague, Czech Republic
11/6/04	“When Should an Athlete Retire Following Concussion” IIHF Meeting Second International Symposium on Concussion in Sport

Prague, Czech Republic

9/23/04	“Primary Care Management of Closed Head Injuries” Southboro Medical Group Meeting Southboro, MA
7/18/04	“Concussion Guidelines - Current Status” University of Pittsburgh Medical Center New Developments in Sports – Related Concussion The Westin Convention Center Pittsburgh, PA
6/24/04	NFL Meeting NFL Headquarters New York, NY
6/16/04	Press Conference “Position Statement on Sports – Related Concussion” National Athletic Trainers Association Annual Meeting Baltimore, MD
5/22/04	“Diffuse Brain Injuries” The William W. Backus Hospital Trauma Department Athletic Injuries of the Head and Neck Foxwood Resort Casino Uncasville, CT
5/4/04	“Fatal Brain Injuries in American Football (1945-1999)” Sports Concussion and Spine Injury Conference Brigham and Women’s Hospital Fenway Park Boston, MA
5/1/04	“Challenges In Identifying and Treating Sports Injuries” 2004 AANS Annual Meeting Orlando Convention Center Orlando, FL
4/6/04	“Concussions in the Active Child, Adolescent, and Young Adult: Current Concepts, New Findings and Re-Education” Massachusetts Medical Society Meeting Waltham, MA
9/11/03	“Head Injury and the Risk of Alzheimer’s Disease and Depression” American Association of Ringside Physicians Aladdin Hotel Las Vegas, Nevada
7/4/03	“Effects of Dehydration on Race Car Drivers” Daytona Pepsi 400 Race Daytona International Speedway

Daytona Beach, Florida

- 6/21/03 “Cervical Spinal Stenosis – A Contraindication for Collision Sports”
International Academy for Sports Dentistry 2003 Annual Meeting
Caribe Hilton Hotel
San Juan, Puerto Rico
- 6/20/03 “Cerebral Concussion Controversies in Sports”
International Academy for Sports Dentistry 2003 Annual Meeting
Caribe Hilton Hotel
San Juan, Puerto Rico
- 5/30/03 “Emergency Care of the Spine Injured Athlete”
American College of Sports Medicine Annual Meeting
San Francisco Convention Center
San Francisco, California
- 5/30/03 “On-the-Field Management of the Spine-Injured Athlete”
American College of Sports Medicine Annual Meeting
San Francisco Convention Center
San Francisco, California
- 5/30/03 “Life After Football: History of Concussive Injuries, Onset of Neurologic Disorders, and
Mental Health Issues in former NFL Players”
American College of Sports Medicine Annual Meeting
San Francisco Convention Center
San Francisco, California
- 5/9/03 “Athletic Head and Spine Injuries and Return To Play Decisions”
3rd Annual Legacy Neurosurgery Symposium
Legacy Good Samaritan Hospital
Portland, Oregon
- 4/29/03 “Challenges in Identifying and Testing Sport Injuries”
American Association of Neurological Surgeons Annual Meeting
San Diego, CA
- 3/8/03 “Acute Concussion Evaluation and Post Concussion Syndrome”
Texas ACMS Annual Meeting
Omni Houston Hotel Westside
Houston, Texas
- 1/16/03 “ACSM Motorsports Taks Force Committee Report”
International Council Motorsports Sciences
Mirage Hotel
Las Vegas, Nevada
- 2/7/03 “Brain Fatalities in American Football Over the Last 55 Years”
3rd Annual Neurotrauma and Sports Medicine Review
Grand Floridian Hotel
Orlando, Florida

- 2/7/03 “Interesting Sports Medicine Cases: A Potpourri of Head and Spine Cases”
3rd Annual Neurotrauma and Sports Medicine Review
Grand Floridian Hotel
Orlando, Florida
- 2/7/03 “Ongoing Concussion Controversy”
3rd Annual Neurotrauma and Sports Medicine Review
Grand Floridian Hotel
Orlando, Florida
- 2/8/03 “On-going Cervical-Spinal Stenosis Controversy”
3rd Annual Neurotrauma and Sports Medicine Review
Grand Floridian Hotel
Orlando, Florida
- 12/5/02 “Closed Head Injuries”
Thirtieth Annual Meeting Cervical Spine Research Society
Fontainebleu Hilton Hotel
Miami Beach, Florida
- 12/5/02 “On-the-Field Evaluation of Head Injuries”
Thirtieth Annual Meeting Cervical Spine Research Society
Fontainebleu Hilton Hotel
Miami Beach, Florida
- 9/26/02 “Concussion Guidelines and Return to Play Criteria”
Greater New York State Orthopedic Association
Saratoga, N.Y.
- 7/20/02 “Concussion in Sports Medicine”
New Developments in Sports Related Concussion
University of Pittsburgh School of Medicine
Pittsburgh, PA
- 6/19/02 “Concussion in Sports Medicine”
Sports Medicine Core Curriculum Series Harvard Medical School
Massachusetts General Hospital
Boston, MA
- 6/16/02 “Introduction to the Problem: The Grading Scale and RTP Dilemma”
National Athletic Trainers Association: Annual Meeting
Dallas, TX
- 6/5/02 “Concussion in Athletic Sports-Controversies Regarding Grading and Return to Play Guidelines”
Connecticut Athletic Trainers Association Annual Meeting
Trinity College
Hartford, Connecticut
- 6/1/02 “On-the-Field Evaluation of Head and Neck Injured Athletes”
American College of Sports Medicine: Annual Meeting
St. Louis, MO
- 5/31/02 “Prehospital Care of the Spine-Injured Athlete: A Critical Look at the Task Force Document”

American College of Sports Medicine: Annual Meeting
St. Louis, MO

5/31/02 “On-the-Field Evaluation of Head and Neck Injuries”
American College of Sports Medicine: Annual Meeting
St. Louis, MO

5/30/02 “The Pros and Cons of Neuropsychological Testing in Concussion”
“The Practical Use of Neuropsychological Testing: Clinically and in Research”
American College of Sports Medicine: Annual Meeting
St. Louis, MO

4/13/02 “Grading Scale for Concussion in Sports”
American Academy of Neurology
Denver, Colorado

2/16/02 “Overview of Concussion”
2nd Annual Neurotrauma and Sports Medicine Review
Alleghany Hospital, Pittsburgh, PA
Caribe Royale Resort Suites and Villas
Orlando, Florida

2/16/02 “Head Injury in Recreational Sports”
2nd Annual Neurotrauma and Sports Medicine Review
Alleghany Hospital, Pittsburgh, PA
Caribe Royale Resort Suites and Villas
Orlando, Florida

2/16/02 “Guidelines for Return to Competition after a Mild Head Injury”
2nd Annual Neurotrauma and Sports Medicine Review”
Alleghany Hospital, Pittsburgh, PA
Caribe Royale Resort Suites and Villas
Orlando, Florida

11/3/01 “Panel Discussion: When to retire from sports”
European Sports Medicine Conference
Vienna, Austria

11/3/01 “Assessing Concussions: Review of Grading Systems”
European Sports Medicine Conference
Vienna, Austria

10/1/01 “Neurosurgical Management of Athletic Injuries”
Congress of Neurological Surgeons 51st Annual Meeting
San Diego, California

10/1/01 “On-the-Field Management of Head and Neck Injuries”
Kerlin Jobe Clinic
Los Angeles, California

7/28/01 New Developments in Sports Related Concussion
“Models of Concussion Management: Current Models of Concussion

Management: Where Are We Headed?"

University of Pittsburgh School of Medicine Center for Continuing Education in the Health Sciences, Department of Orthopedic Surgery, UPMC Health System Center for Sports Medicine, Western Psychiatric Institute and Clinic
Hilton Hotel, Pittsburgh, PA

- 6/8/01 "Second Impact Syndrome"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 6/8/01 "Return to Play After Concussion"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 6/8/01 "Concussion Grading Systems"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 6/8/01 "Biomechanical and Pathophysiology of Head Injury"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 6/8/01 "Overview of Concussion"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 6/8/01 "Guidelines to the Evaluation of Mild Traumatic Brain Injury in Motor Vehicle Accidents and Work Injuries"
Manitoba Public Insurance and the Workers Compensation Board of Manitoba Continuing Medical Education Guest Speakers Series
Winnipeg, Canada
- 5/31/01 "On-the-Field Evaluation of Head and Neck Injuries"
American College of Sports Medicine Annual Meeting
Baltimore Convention Center
Baltimore, Maryland
- 5/31/01 "Return to Play Decisions Following Concussion: Controversies and Dilemmas"
American College of Sports Medicine Annual Meeting
Baltimore Convention Center
Baltimore, Maryland
- 5/30/01 "NASCAR Deaths: Were they preventable"
American College of Sports Medicine Annual Meeting
Baltimore Convention Center
Baltimore, Maryland

- 5/19/01 “Concussion: It’s Effect Upon the Brain”
Salem Sports Medicine Conference Head and Neck Injuries in Athletes
Colonial Sheraton
Lynnfield, Massachusetts
- 5/7/01 “On-the-Field Evaluation of Athletic Head and Spine Injury”
New York State Public High School Athletic Association
Carrier Circle Holiday Inn
Syracuse, New York
- 5/7/01 “Evaluation, Treatment and Return to Play Decisions Regarding Athletic Head and Spine Injury”
New York State Public High School Athletic Association
Carrier Circle Holiday Inn
Syracuse, New York
- 5/5/01 “Athletic Cervical Spine Injuries”
American Academy of Neurology 53rd Annual Meeting
Pennsylvania Convention Center
Philadelphia, PA
- 3/19/01 “NASCAR Deaths: Were they preventable”
Neurotrauma and Sports Medicine for the New Millennium
Department of Neurosurgery, Allegheny General Hospital
The Shadow Ridge Hotel and Conference Center
Park City, Utah
- 3/19/01 “Adult vs. Pediatric Athletic Spine Injuries: Management Issues”
Neurotrauma and Sports Medicine for the New Millennium
Department of Neurosurgery, Allegheny General Hospital
The Shadow Ridge Hotel and Conference Center
Park City, Utah
- 3/19/01 “Athletic Head and Spinal Cord Injuries”
Neurotrauma and Sports Medicine for the New Millennium
Department of Neurosurgery, Allegheny General Hospital
Park City, Utah
- 3/19/01 “On-the-Field Management of Athletic Head Injuries”
Neurotrauma and Sports Medicine for the New Millennium
Department of Neurosurgery, Allegheny General Hospital
The Shadow Ridge Hotel and Conference Center
Park City, Utah
- 3/19/01 “Overview of Concussion”
Neurotrauma and Sports Medicine for the New Millennium
Department of Neurosurgery, Allegheny General Hospital
The Shadow Ridge Hotel and Conference Center
Park City, Utah

12/2/00 “Second Impact Syndrome”
Sports Neurology Injuries of the Head and Spine
Hospital for Special Surgery, Burke Rehabilitation Hospital and the Weill Medical College of
Cornell University
Uris Auditorium
New York, New York

11/18/00 “Catastrophic Football Head Injuries”
Southwest Chapter American College Sports Medicine 2000 Annual Meeting
Bahia Hotel
San Diego, CA

11/3/00 “Practical Management of Head Injuries and Concussion in Sport
British Association of Sports and Exercise Medicine
Hilton Puckrup Hall
Tewkesbury, Gloucestershire England

9/16/00 “Diagnosis and Nonsurgical Treatment and Rehabilitation of Degenerative Cervical
Conditions”
7th Annual Symposium New Hampshire Musculoskeletal Institute
Saint Anselm College, Manchester, NH

06/04/99 “On-The-Field Evaluation of Head and Neck Injuries”
American College of Sports Medicine: Annual Meeting
Washington State Convention and Trade Center
Seattle, Washington

06/03/99 “Concussion Symposium”
American College of Sports Medicine: Annual Meeting
Washington State Convention and Trade Center
Seattle, Washington

05/28/99 “Concussion: Mechanisms and Classifications”
Sports Related Concussions and Nervous System Injury Conference
Orlando Regional Healthcare System
Hotel Royal Plaza
Orlando, Florida

12/10/98 “Headaches”
Middlesex Community College Community Lecture
Bedford, Massachusetts

11/08/98 “Sports Related Concussion Controversies: Neuropsychological Aspects and Return to
Play Issues:
Traumatic Brain Injury and Stroke Conference
Healthsouth Braintree Rehabilitation Hospital
Royal Sonesta Hotel
Boston, Massachusetts

06/06/98 “Examination of the Spine”
American College of Sports Medicine: Annual Meeting

Orange County Convention Center
Orlando, Florida

- 06/05/98 “Age, Ethical, Sociological, and Safety Issues in Boxing Especially as Regards Head Injury”
American College of Sports Medicine: Annual Meeting
Orange County Convention Center
Orlando, Florida
- 06/02/98 “Age in Boxing: Should there be an age limit”
XXVI FIMS World Congress of Sports Medicine
Orange County Convention Center
Orlando, Florida
- 05/15/98 “Return to Sports Criteria Following Concussion”
Innovative Symposiums/Sports Related Concussion
Smithtown Sheraton
Long Island, New York
- 05/15/98 “Concussion Classification and Implementation”
Innovative Symposiums/Sports Related Concussion
Smithtown Sheraton
Long Island, New York
- 05/08/98 “Fitness Over Forty and Fifty”
Lincoln-Sudbury Auxiliary Board Meeting
Pierce House, Lincoln
- 04/24/98 “The Concussion Controversy/Grading and Return to Play”
Sports Medicine Update ‘98 and NEACSM Spring Meeting
Sunrise/Mediplex, Concord, MA
Program Co-chair
- 04/07/98 “Living With Low Back Pain”
Emerson Hospital Community Lecture Series
Emerson Hospital
Concord, Massachusetts
- 03/17/98 “Head Injury in Sports”
Boston Medical Center
Department of Rehabilitation Medicine
Boston, Massachusetts
- 03/07/98 “Safety Issues In Boxing Regarding Head Injury”
Sports Related Concussion and Nervous System Injuries
Orlando Regional Healthcare System
Caribe Royale Resort
Lake Buena Vista, Florida
- 02/06/98 “Neurologic and Vascular Causes of Upper Extremity Problems
(Cervical Spine Stingers, Peripheral Nerve, Brachial Plexus, Thoracic Outlet)
American College of Sports Medicine’s Team Physician Course
San Diego Princess Resort
San Diego, California

02/06/98	<p>“Cervical Spine Injury, Extra Axial Facet, Disk, Radicular Symptoms, and Transient Quadriplegia” <u>American College of Sports Medicine’s Team Physician Course</u> San Diego Princess Resort San Diego, California</p>
02/06/98	<p>“Epilepsy and Sports Participation” <u>American College of Sports Medicine’s Team Physician Course</u> San Diego Princess Resort San Diego, California</p>
02/06/98	<p>“Concussion: Definition, Classification, and Return to Play” <u>American College of Sports Medicine’s Team Physician Course</u> San Diego Princess Resort San Diego, California</p>
02/06/98	<p>“Problems and Perils in On-field Management of Head and Neck Injury” Hands-on Exam Workshop <u>American College of Sports Medicine’s Team Physician Course</u> San Diego Princess Resort San Diego, California</p>
02/06/98	<p>“Physical Examination of the Cervical Spine” Hands-on Exam Workshop <u>American College of Sports Medicine’s Team Physician Course</u> San Diego Princess Resort San Diego, California</p>
01/31/98	<p>“Concussion/Closed Head Trauma/Convulsions” Panel Discussion <u>The Jockey Club/Concussion and Head in Sport</u> The Gloucester Hotel Harrington Gardens London, England</p>
01/30/98	<p>“Concussion in Sport and the Second Impact Syndrome” <u>The Jockey Club/Concussion and Head in Sport</u> The Gloucester Hotel Harrington Gardens London, England</p>
10/18/97	<p>“The On-Field Management of Athletic Head and Spine Injuries” ACC Keynote Address <u>New Zealand Sports Medicine Partners In Performance Conference</u> Millennium Hotel Christchurch, New Zealand</p>
10/18/97	<p>“Second Impact Syndrome:” ACC Keynote Address <u>New Zealand Sports Medicine Partners in Performance Conference</u> Millennium Hotel Christchurch, New Zealand</p>

10/17/97 “When To Return to Collision Sports After Concussion”
ACC Keynote Address: Tom Anderson Trust Lecture
New Zealand Sports Medicine Partners in Performance Conference
Millennium Hotel
Christchurch, New Zealand

10/16/97 “The Return to Sport After Cervical Spine Injury”
Sports Physician Day
New Zealand Sports Medicine Partners in Performance Conference
Millennium Hotel
Christchurch, New Zealand

10/14/97 “Catastrophic Sports Injuries”
New Zealand Sports Medicine Conference
Hawkes Bay Chapter
Hawkes Bay, New Zealand

10/14/97 “Second Impact Syndrome”
Grand Rounds Presentation
Napier Hospital
Napier, New Zealand

10/13/97 “When to Return to Competition After Head and Spine Injury”
New Zealand Sports Medicine Conference
Whangarei, New Zealand

09/25/97 “Athletic Head Injury Guidelines”
New England American College of Sports Medicine: Fall Meeting
Rhode Island Convention Center
Providence, R.I.

05/22/97 “Head Injury In Football”
American College of Sports Medicine: Annual Meeting
Denver, Colorado

05/01/97 “Should There Be An Age Limit in Boxing”
WBC: First Medical Conference on Boxing Safety
Aruba

03/14/97 “Head Injury in Boxing”
Ringside Physician Course
Colorado Springs, Colorado

02/10/97 “Concussion Guidelines: Controversies and Implementation”
Allegheny General Hospital Sports Medicine Meeting
Caribe Royale Resort
Lake Buena Vista, Florida

01/12/97 “Neurological Injuries and the Athlete”
Breakfast Seminar
AANS 65th Annual Meeting
Colorado Convention Center
Denver, Colorado

11/22/96	“Catastrophic Head Injury” <u>Oklahoma Spine Institute</u> Oklahoma City, Oklahoma
11/08/96	“Head and Face Protection for the Athlete” <u>New England American College of Sports Medicine: Fall Meeting</u> Boxboro, MA
10/26/96	“Ask the Experts” Fitness and Beauty Cruise Norwegian Cruise Line
10/23/96	“Weekend Warrior Woes” Fitness and Beauty Cruise Norwegian Cruise Line
10/22/96	“Exercise for Health versus Fitness” Fitness and Beauty Cruise Norwegian Cruise Line
10/02/96	“Head Injury and the Athlete” <u>Pediatric Day Conference</u> Waterbury, CT
06/01/96	“Boxing and Medicine” <u>American College of Sports Medicine: Annual Meeting</u> Cincinnati, OH
05/31/96	“On-the-Field Evaluation of Head and Neck Injuries” Clinical Workshop <u>American College of Sports Medicine: Annual Meeting</u> Cincinnati, OH
05/31/96	“Positive and Negative Effects of Head Protection” NCAA Colloquium <u>American College of Sports Medicine: Annual Meeting</u> Cincinnati, OH
05/29/96	“Management of Head and Neck Injuries” <u>American College of Sports Medicine: Annual Meeting</u> Cincinnati, OH
5/18/96	“Head and Neck Injuries in Sports: Assessment in On-The-Field Management” Sports Medicine For The Rheumatologist <u>American College of Rheumatology</u> Phoenix, AZ
4/27/96	“Diffuse Brain Injuries”; “Spinal Stenosis, Cord Neuropraxia, Transient Quadriplegia”; “Athletic Injuries of the Head and Neck” <u>The William W. Backus Hospital Trauma Department Program</u> Foxwoods Resort Casino, CT

03/14/96 “Boxing Injuries”
 Emory University School of Medicine
 Summer Games: Sports Medicine Review
 Atlanta, GA

02/09/96 “Concussion: Definition, Classification, and Return to Play”;
 “Epilepsy and Sports Participation”;
 “Cervical Spine Injury, Extra Axial Facet, Disk, Radicular
 Symptoms, and Transient Quadripareisis”;
 “Neurologic and Vascular Causes of Upper Extremity Problems
 (Cervical Spine, Stringers, Peripheral Nerve, Brachial Plexus, Thoracic Outlet)”;
 “Hands-on Workshop - Physical Examination of the Spine”
 American College of Sports Medicine: Team Physician Course - Part I
 San Diego, CA

01/27/96 “Strength Aerobics - The Next Stage in Personal Fitness”
 McKenzie Speaker
 Sports Injuries Update
 Lake Placid Sports Medicine Society Conference
 Lake Placid, NY

01/26/96 “Epidemiology and Pathophysiology of Athletic Head Injury”
 “Acute Assessment of Athletic Head and Neck Injuries”
 “Surgical Treatment of Athletic Head and Spine Injuries:
 Who can Safely Return to Competition”
 Sports Injuries Update
 Lake Placid Sports Medicine Society Conference
 Lake Placid, NY

01/25/96 “Athletic Neck and Cervical Spine Trauma”
 Albany Medical College
 Albany, NY

01/07/96 “Second Impact Syndrome”
 Eastern Athletic Trainers Association Annual Meeting
 Boston, MA

12/14/95 “Catastrophic Head and Neck Injury in Sports”
 “Evaluation of Current Guidelines for Head Injury in Sports”
 “General Spinal Stenosis in Contact Sports”
 Rehabilitation Sports Medicine VIII: Controversies in Sports Medicine.
 The Rehabilitation Institute of Chicago
 Chicago, IL

11/09/95 “Strength Aerobics”
 Walden Rehabilitation & Nursing Center
 Concord, MA

10/23/95 “Weekend Warrior Woes: How to Avoid Exercise Injuries”
 Fitness and Beauty Cruise
 Norwegian Cruise Line

10/22/95	<p>“Exercise for Health vs Fitness (How Much is Enough?)” Fitness and Beauty Cruise Norwegian Cruise Line</p>
10/13/95	<p>“Closed Head Injury” “Transient Quadriplegia in Sports” Together in College Health: Surviving and Thriving <u>Combined Annual Meeting: New York State Health Association and New England College Health Association</u> Tarrytown, NY</p>
10/11/95	<p>“Catastrophic Sports Injuries: Functional Spinal Stenosis” “Sudden Death Syndrome” <u>Emerson Hospital Neurology Conference</u> Concord, MA</p>
08/24/95	<p>“Torso and Genitourinary Tract Injuries” <u>Medicine in the Last Frontier/Medical World Conference</u> Alaska</p>
08/24/95	<p>“A Team Physician’s Sports Medicine Bag” <u>Medicine in the Last Frontier/Medical World Conference</u> Alaska</p>
08/21/95	<p>“Sports Injuries in Young Athletes” <u>Medicine in the Last Frontier/Medical World Conference</u> Alaska</p>
08/21/95	<p>“How to Write a Precise Aerobic Exercise Prescription” <u>Medicine in the Last Frontier/Medical World Conference</u> Alaska</p>
08/20/95	<p>“Conditioning of Cardiovascular System: A Machiavellian Approach to Health” <u>Medicine in the Last Frontier/Medical World Conference</u> Alaska</p>
06/14/95	<p>“Guidelines for Return to Competition After Mild Brain Injury in Sports” <u>National Athletic Trainers’ Association</u> Indianapolis, IN</p>
06/02/95	<p>“On-The-Field Evaluation of Head and Neck Injuries” Clinical Workshop <u>American College of Sports Medicine: Annual Meeting</u> Minneapolis, MN</p>
05/23/95	<p>“Trauma to the Head and Spine” <u>Connecticut Athletic Trainers’ Association</u> New Britain, CT</p>
05/13/95	<p>“Cervical Radiculopathy - Painless vs. Painful: A Conceptual Model and Management Approach” <u>1st Annual Combined Meeting - Puget Sound & Portland Spine Interest Groups</u> Seattle, WA</p>

05/07/95 “Current Treatment Recommendations for Concussions and the Burner Syndromes”
Prevention and Management of High School Football Injuries
Salem Orthopedic Surgeons, Inc.
Waltham, MA

04/28/95 “Management of Sports-Related Spine Injuries”
Keynote Address
Contemporary Management of Lumbar Spine Disorders
The NeuroScience Institute at Mercy
Oklahoma City, OK

04/23/95 “Assessment of Acute and Repetitive Head Injuries”;
“Management of Cervical Injuries”
Clinical Congress: Decision Making and Sports Injuries
Braintree Hospital Rehabilitation Network
Randolph, MA

04/21/95 “Return to Play Criteria After Cervical Spine Injury”
“Cervical Spine Injuries Workshop: Case Studies and Discussion”
Controversies in Decision Making: Neurological Sports Injuries
University of Miami School of Medicine
Lake Buena Vista, FL

04/01/95 “Exercise for Health vs Fitness”
Mens Health Day
Emerson Hospital
Concord, MA

03/03/95 “Catastrophic Injury of the Brain and Spinal Cord”
Ninth Annual Neurologically Impaired Individual Symposium
St. Mary’s Hospital
Richmond, VA

02/21/95 “Head Injuries”
Department of Physical Medicine & Rehabilitation
Resident Didactic Seminars
Tufts University School of Medicine
Newton Wellesley Hospital
Natick, MA

02/15/95 “Chest and Abdominal Injuries”
Sports Medicine: An In-Depth Review
American Academy of Family Physicians
Dallas, TX

02/14/95 “Closed Head Injuries”
“Entrapment Neuropathies”
“Spine: History and Exam Skills Workshop”
Sports Medicine: An In-Depth Review
American Academy of Family Physicians
Dallas, TX

- 01/25/95 “Athletic Head and Spine Injuries: Recognition of
On-The-Field Care and Return to Play Guidelines”
Sports Medicine Symposium 1995
North Broward Medical Center
Pompano Beach, FL
- 12/07/94 “The Prevention of Sports Related Neurological Injuries in American Football: Rules,
Equipment, and Surfaces”;
“Guidelines for Return to American Football
After an Episode of Transient Quadriplegia”
American Society for Testing and Materials Symposium on Safety in American Football
Phoenix, AZ
- 11/19/94 “Prevention, Treatment, and Return to Play Criteria for Head & Neck Injuries in Sports”
“ACSM and the Sports Medicine Professional”
Greater New York Regional Chapter American College-of-Sports Medicine
New York, NY
- 11/04/94 “When to Return to Contact Collision Sports After an Episode of Transient Quadriplegia”
New England Chapter American College of Sports Medicine
Boxborough, MA
- 09/14/94 “Spinal Stenosis”
Emergency Department Medical Staff Conference
Emerson Hospital
Concord, MA
- 06/11/94 “Assessment and Treatment of Traumatic Cervical Spine/Cord Injury”
“Guidelines for Return to Contact Collision Sports After Traumatic Cervical
Spine/Cord Injury”
National Athletic Trainers Association Annual Meeting and Clinical Symposium
Dallas, TX
- 06/04/94 “On-the-Field Evaluation and Management of Head and Spinal Cord Injury”
American College of Sports Medicine: Annual Meeting
Indianapolis, IN
- 06/03/94 “Concussion: Management and Return to Competition”
American College of Sports Medicine: Annual Meeting
Indianapolis, IN
- 06/02/94 “Traumatic Fatal and Non-Fatal Catastrophic Sports Injuries”
American College of Sports Medicine: Annual Meeting
Indianapolis, IN
- 06/02/94 “Cervical Spinal Stenosis and Contact Sports”
American College of Sports Medicine: Annual Meeting
Indianapolis, IN
- 05/20/94 “Return to Sport After Head Injury”
“Head and Neck Injuries”
“The Preparticipation Examination”

Caribbean Sports Medicine Congress
Bridgetown, Barbados, WI

- 04/17/94 “Cerebral Concussion in Sport: Prevention and Management”
Mild Brain Injury Summit National Athletic Trainers Association
Washington, D.C.
- 03/23/94 “Neck Injuries: The Great Debate: Personal Experience and Perspectives of Our Experts”
Panelist: Neck Injuries Workshop Case Studies and Discussion
Controversies in Decision Making: Neurological Sports Injuries
University of Miami School of Medicine and the Miami Project to Cure Paralysis
Lake Buena Vista, FL
- 03/22/94 “Catastrophic Sports Injuries: Which Sports Are at Greatest Risk and Why”
“When to Return to Contact/ Collision Sports After Head and Spine Injury”
16th Annual Family Practice Review
Bayfront Medical Center
St. Petersburg Beach, FL
- 03/21/94 “When is it Safe to Return to Contact Sports?”
Panelist: Head Injury Workshop - Case Studies and Discussion
Controversies in Decision Making: Neurological Sports Injuries
University of Miami School of Medicine and the Miami Project to Cure Paralysis
Lake Buena Vista, FL
- 03/20/94 “Prevention of Sports-Related Neurological Injuries: Rules, Equipment, and Surfaces,”
Moderator: Peripheral Nerve Injuries Workshop - Case Studies and Discussion
Controversies in Decision Making: Neurological Sports Injuries
University of Miami School of Medicine and the Miami Project to Cure Paralysis
Lake Buena Vista, FL
- 03/12/94 “Acute and Second Impact Syndrome Head Injury”
First Annual Ringside Physicians Course
United States Amateur Boxing, Inc.
Colorado Springs, CO
- 03/08/94 “Health Benefits of Physical Fitness,”
Second Annual New Dimensions in Research Conference
Mabon Securities Corporation
Beaver Creek, CO
- 03/05/94 “Managing Head and Neck Injuries”
Sports Med Boston: “New Options for Treating the Injured Athlete”
Back Pain Society
Danvers, MA
- 01/21/94 “Neck Injuries”
Sport Med 94
Toronto, Canada
- 01/21/94 “Head Injuries in Sport”
The Tom Pashby Sport Safety Fund Lecture
Sport Med 94
Toronto, Canada

- 11/19/93 “When is it Safe to Return to Contact Sports After a Head Injury”
American Medical Tennis Association Omni Specialty Sports Medicine Update
Palm Springs, CA
- 11/18/93 “When is it Safe to Return to Contact Sports After a Cervical Spine Injury?”
American Medical Tennis Association Omni Specialty Sports Medicine Update
Palm Springs, CA
- 11/09/93 “The Female Triad: Disordered Eating, Amenorrhea, and Osteoporosis”
Community Health Education Program
Emerson Hospital
Concord, MA
- 09/06/93 “Head and Neck Injury”
XVth World Congress of Neurology
Vancouver, B.C., Canada

- 08/14/93 “Epidemiology, Recognition and Acute Management of Closed Head Injury/ Concussion”
“Return to Competition After Head Injury”
“Fractures and Dislocations of Cervical Spine”
“Epidemiology, Evaluation and Treatment of Traumatic Spinal Cord Injury:
Return to Competition”
“Case Presentations: Transient Quadriplegia”
ACSM CAQ Board Review Course for the Certification Examination
in Sports Medicine
San Francisco, CA
- 08/13/93 “Functional Anatomy & Biomechanics:
Examination of the Patient with Low Back Pain”
“Lumbar Spinal Stenosis: Dx and Management”
“Indications for Surgery and Return to Competition After Lumbar Spine Injury”
“Legal Aspects of Sports Medicine and Role of the Team Physician”
“On-field Management and Evaluation of Acute Spinal Cord Trauma”
ACSM CAQ Board Review Course for the Certification Examination
in Sports Medicine
San Francisco, CA
- 06/11/93 “Case Studies: Epidemiology, Assessment, and Return to Play Criteria
for Head Injuries in Sports”
National Athletic Trainers Association Annual Meeting and Clinical Symposium
Kansas City, MO
- 06/05/93 “Spinal Stenosis: Transient Quadriplegia and Football”
40th Annual Meeting American College of Sports Medicine
Seattle, WA
- 06/03/93 “Physician Continuing Medical Education and Opportunities”
Symposium: 40th Annual Meeting American College of Sports Medicine
Seattle, WA
- 05/20/93 “Where is Boxing in This Process?”
International Symposium on Head and Neck Injuries in Sports American Society for Testing
and Materials
Atlanta, GA
- 05/14/93 “Sports Medicine in Primary Care”
“Athletic Catastrophic Sports Injury Study (1931-1987):
Which Sports Are at Greatest Risk and What is Being Done to Reduce Injury”
“Medical Coverage of Games and Events”
“Legal Liabilities of the Team Physician”
“How to Live Painlessly With Your Low Back Disorder”
Fourth Annual Sports Medicine Conference on the Beach Halifax Medical Center Family Practice
Residency Program
Daytona Beach, FL
- 05/07/93 “Women’s Triad”
Conference Chairman
Eighth Annual Sports Medicine Update 93
Westford, MA

05/06/93 “Returning to Contact Sports After a Head Injury:
Relative and Definite Contraindications”
Department of Pediatrics, Emerson Hospital
Concord, MA

04/15/93 “The Prevention and Treatment of Athletic Spine Injuries”
Grand Rounds
Nashua Memorial Hospital, NH

03/06/93 “Specific Problems and Pearls in Boxing”
“Indications for Surgery and Return to Competition After Lumbar Spine Injury”
Team Physician Course Parts II and III: American College of Sports Medicine
Orlando, FL

03/05/93 “Transient Quadriplegia (Symptoms, Pathomechanics, Work-up, Return to Play,
Controversies, Case Presentations and Discussion)
(With Stanley A. Herring, M.D.)
Team Physician Course Part III: American College of Sports Medicine
Orlando, FL

03/04/93 “Brachial Plexus Injuries”
“Epidemiology, Recognition, and Acute Management of Head Injuries”
“Return to Play Criteria After Head Injury”
“Epilepsy and the Athlete”
Team Physician Course Part II and III: American College of Sports Medicine
Orlando, FL

03/02/93 “Toward a Lifetime of Family Fitness”
Health and Fitness in the 90’s
The Thoreau Club of Concord
Concord, MA

02/23/93 “Legal Liabilities of the Team Physician”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Scottsdale, AZ

02/22/93 “Epilepsy and the Athlete”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Scottsdale, AZ

01/29/93 “Catastrophic Sports Injuries: Which Sports are at Greatest Risk and Why?”
Southeast Regional Chapter: American College of Sports Medicine
Norfolk, VA

01/29/93 “Medical Risks of Boxing/Is Boxing a Sport?”
Southeast Regional Chapter: American College of Sports Medicine
Norfolk, VA

01/25/93 “Head and Spine Injuries in Athletes”
Chelmsford High School
Chelmsford, MA

01/23/93 “Head and Neck Injuries in Athletes”
Comprehensive Review Course in Sports Medicine
The College of Physicians and Surgeons
Department of Orthopaedic Surgery
Columbia University, New York
Barbados, West Indies

01/12/93 “Women’s Health Issues: Ask the Doctor”
Health and Fitness in the 90’s
The Thoreau Club of Concord
Concord, MA

12/23/92 “Overview of Head Injuries in the Athlete,”
St. Vincent Hospital Grand Rounds
Worcester, MA

11/18/92 “Head and Neck Injury Reduction in Football: A Sixty-Year Effort”
American Medical Tennis Association
Palm Springs, CA

11/13/92 “Low Back Pain: Etiology, Diagnosis, and Treatment”
“Spinal Cord Injuries”
American Academy of Family Physicians 6th Annual Family Practice Weekend & Sports
Medicine Conference
Huntington, WV

11/10/92 “Exercise: What’s the Right Dosage for You?”
Health and Fitness in the 90’s
The Thoreau Club of Concord
Concord, MA

10/14/92 “Cervical Spine Injuries”
Australian College of Sports Physicians: National Annual Scientific Conference in
Sports Medicine
Perth, Western Australia

10/13/92 “The Team Physician”
Australian College of Sports Physicians: National Annual Scientific Conference in
Sports Medicine
Perth, Western Australia

10/12/92 “Catastrophic Sports Injuries”
Keynote Address
Australian College of Sports Physicians: National Annual Scientific Conference in
Sports Medicine
Perth, Western Australia

10/06/92 “Signs and Symptoms of Anabolic Steroid Abuse”
Commonwealth of Massachusetts
Project Alliance Training Program
Burlington, MA

08/22/92 “Back Injuries in Tennis Players”
 Society of Tennis Medicine and Science
 Yale University
 New Haven, CT

07/23/92 “Fitness for Good Health”
 Concord Prison Outreach
 Concord, MA

06/05/92 “Serious Head and Neck Injury Reduction in Football - A 60-Year Effort”
 New England Neurosurgical Society.
 Waltham, MA

05/29/92 “Head Injury in Sports”
 39th Annual Meeting American College of Sports Medicine
 Dallas, TX

05/28/92 “Team Physician Certification,”
 39th Annual Meeting American College of Sports Medicine
 Dallas, TX

05/27/92 “Head, Neck, and Spine: Head and Neck Injury”
 Chair: Physician Case Presentations
 39th Annual Meeting American College of Sports Medicine
 Dallas, TX

05/13/92 “Steroid Abuse in the Athlete”
 Spring Symposium on Sports Medicine
 Milford Whitinsville Regional Hospital
 Milford, MA

05/01/92 “The Anabolic Steroid Epidemic”
 7th Annual Sports Medicine Update 92
 Westford, MA

04/14/92 “Disc Herniation in the Athlete: When to Operate?”;
 “On-field Emergencies to the Spine and Neck”
 The National Sportsmedicine Conference ‘92
 Orlando, FL

03/11/92 “Steroids - The Threat and Dangers,”
 Assabet Valley Regional Vocational School
 Marlborough, MA

02/26/92 “Lumbar Spinal Stenosis: Evaluation and Treatment”
 Leominster Hospital Grand Rounds
 Leominster, MA

02/24/92 “Head Trauma in Adolescents”
 Medical Student Education
 Emerson Hospital
 Concord, MA

- 02/02/92 “Sports Medicine-Sports Science: Bridging the Gap”;
“Head, Neck, and Extrapapinal Nerve Injury in Contact Sports”;
“Acute and Chronic Brain Injuries in Boxing and Other Collision Sports”;
“Return to Collision Sports After Athletic Cervical and Lumbar Spine Injury”
Third National Kaiser Permanente Sports Medical Conference
Snowbird, UT
- 01/13/92 “Steroids - The Threat and Dangers”
Marlborough High School Athletic Department
Marlborough, MA
- 12/14/91 “Epidemiology, Assessment, and Criteria for Return to Play in Cervical Spine Injuries”;
“Epidemiology, Assessment, and Return to Play Criteria for Head Injuries in Sports”
Rehabilitation Sports Medicine IV: Injuries to the Head and Neck in Sports
Rehabilitation Institute of Chicago
Chicago, IL
- 12/04/91 “Steroids - The Threat and Dangers”
Sports Injury Symposium: The Massachusetts Interscholastic Athletic Association
Waltham, MA
- 11/22/91 “Anabolic Steroid Abuse in Athletics”
American Medical Tennis Association
Palm Springs, CA
- 11/21/91 “Catastrophic Sports Injuries in High School and College Sports”
American Medical Tennis Association
Palm Springs, CA
- 10/22/91 “Catastrophic Sports Injuries: Which Sports Are at Greatest Risk and What is Being Done to
Reduce Injury”
Harvard Community Health Plan
Wellesley, MA
- 10/19/91 “Etiology, Biomechanics, Diagnosis, and Treatment of Athletic Low Back Pain”
University of Texas Health Center
Tyler, TX
- 10/18/91 “Etiology, Biomechanics, Diagnosis, and Treatment of Athletic Low Back Pain”
Tom Landry Sports Medicine Center
Dallas, TX
- 10/18/91 “Catastrophic Sports Injuries: Which Sports Are at Greatest Risk and What is Being Done to
Reduce Injury”
Texas College of Osteopathic Medicine
Fort Worth, TX
- 10/17/91 “Catastrophic Sports Injuries: Which Sports Are at Greatest Risk and What is Being Done to
Reduce Injury”
Texas A&M University
College Station, TX

10/17/91 “Etiology, Biomechanics, Diagnosis, and Treatment of Athletic Low Back Pain”
Texas Woman’s University
Houston Center, TX

10/10/91 “Head and Spine Injuries in Athletes”
Maine Medical Center
Portland, ME

09/27/91 “Catastrophic Sports Injuries: Sports at Risk?”
Medical Staff Clinical Meeting
Emerson Hospital
Concord, MA

09/08/91 “Catastrophic Spinal Injuries in Scholastic Sports”
American Academy of Neurological and Orthopaedic Surgeons Fifteenth Annual Scientific Convention
Las Vegas, NV

09/07/91 “The Boxing Controversy: A Neurosurgeon’s Perspective”
American Academy of Neurological and Orthopaedic Surgeons Fifteenth Annual Scientific Convention
Las Vegas, NV

09/07/91 “When To Return to Collision Sports After Athletic Head and/or Cervical Spine Injury”
American Academy of Neurological and Orthopaedic Surgeons Fifteenth Annual Scientific Convention
Las Vegas, NV

09/06/91 “Catastrophic Spine Injuries in Scholastic Sports: Which Are at Greatest Risk and What is Being Done to Reduce Injury”
1991 Presidential Guest Lecturer
American Academy of Neurological and Orthopaedic Surgeons Fifteenth Annual Scientific Convention
Las Vegas, NV

07/27/91 “Low Back Pain: Etiology, Diagnosis, and Treatment”
The Burdenko Water and Sports Therapy Institute
Boston, MA

07/27/91 “Catastrophic Spine Injuries in All School Sports”
American Academy of Sports Physicians
Boston, MA

06/12/91 “Health Effects of Regular Exercise”
Concord Prison Outreach
Concord, MA

06/07/91 “Acute and Chronic Brain Injury in Contact Sports”;
“Evaluation of the Athlete for Return to Sports After Concussion”
Snake River Medical Forum
Lewiston, ID

06/01/91 “Boxing - A Historical Perspective”;
“Professional Boxing - One Neurosurgeon’s Viewpoint”
American College of Sports Medicine Annual Meeting
Orlando, FL

05/31/91 “Criteria For Return to Play Following Cervical Injuries”
American College of Sports Medicine Annual Meeting
Orlando, FL

05/17/91 “Carotid Artery Stenosis”
Medical Staff Clinical Scientific Meeting
Emerson Hospital
Concord, MA

05/07/91 “Sports Injuries”
Milford Regional Hospital Grand Rounds
Milford, MA

05/03/91 “When to Return to Competition after Head and Cervical Spine Injury”;
“Anatomy, Biomechanics, Diagnosis, and Management of Athletic Low Back Pain”
Sixth Annual Sports Medicine Update 91
Westford, MA

05/02/91 “Life-threatening Injuries to the Head and Neck”
Minnesota Academy of Family Physicians
Minneapolis, MN

04/24/91 “Catastrophic Spine Injuries in All School Sports (1982-1989)”
American Association of Neurological Surgeons
New Orleans, LA

04/12/91 “Low Back Pain: Etiology, Diagnosis, and Treatment”
National Sports Medicine Conference On The Beach
Halifax Medical Center
Family Practice Residency Program
Daytona Beach, FL

03/26/91 “Recognition and Management of Head Injuries”;
“Peripheral Nerve Entrapment”
American College of Sports Medicine Team Physician Course
Orlando, FL

03/24/91 “Cord and Peripheral Nerve”;
“Spinal Stenosis: How to Evaluate”;
“On-the-Field Management of Acute Spinal Cord Injury”
American College of Sports Medicine Team Physician Course
Orlando, FL

03/14/91 “Catastrophic Sports Injuries in High School and College Sports”
Massachusetts Association for Health, Physical Education, Recreation and Dance,
1991 Annual Convention
Randolph, MA

02/11/91 “Anatomy and Biomechanics of Athletic Cervical Spine & Head Injury”;
 “Intraspinal and Extrapinal. Cervical Spine Injuries - Diagnosis and Management”
 Second National Kaiser Permanent Sports Medicine Conference
 Snowbird, UT

02/10/91 “Anatomy, Biomechanics, Diagnosis and Management of Low Back Pain”
 Second National Kaiser Permanent Sports Medicine Conference
 Snowbird, UT

02/01/91 “Spinal Stenosis: Identification and Therapy,”
 Medical Staff Scientific Meeting
 Emerson Hospital
 Concord, MA

01/10/91 “Lumbar Spinal Stenosis: Evaluation and Treatment/ Surgical Indications”
 Buffalo General Hospital Grand Rounds
 Buffalo, NY

01/10/91 “Diabetes and Exercise”
 Mercy Hospital Grand Rounds
 Buffalo, NY

01/09/91 “How to Live Painlessly With Your Low Back Disorder”
 South Town Physicians
 Blasdell, NY

12/04/90 “Feeling Fit for Life”
 Community Health Lecture Series
 Emerson Hospital
 Concord, MA

11/30/90 “Catastrophic Sports Injuries in High School and College Athletes”
 American Medical Tennis Association
 Palm Springs, CA

11/29/90 “Sports Medicine in Primary Care”
 American Medical Tennis Association
 Palm Springs, CA

11/26/90 “Neurologic Injuries: Assessment/Care at Scene of Injury”
 Littleton Fire Department - EMT
 Littleton, MA

11/17/90 “Epidemiology of Head Injuries in Sports and Return to Play Decision Making”
 Swedish Hospital Medical Center
 Spine Institute Fall Symposium
 Seattle, WA

11/16/90 “Epidemiology of Spinal Cord Injuries and Assessment of Intraspinal Injuries in Sports”
 Swedish Hospital Medical Center
 Spine Institute Fall Symposium
 Seattle, WA

11/07/90	<p>“Steroid Abuse in the Athlete”; “Cranial and Cervical Injuries in Sports” Hahnemann. University School of Medicine Philadelphia, PA</p>
11/03/90	<p>“Sports Injuries to the Lower Extremities” <u>Nurse Practitioner Associates for Continuing Education National Primary Care Conference</u> Boston, MA</p>
10/22/90	<p>“Neurosurgical Athletic Injuries” <u>Congress of Neurological Surgeons</u> Los Angeles, CA</p>
10/16/90	<p>“Osteoarthritis Due to Sports-related Injuries” <u>Framingham Union Hospital Grand Rounds</u> Framingham, MA</p>
10/12/90	<p>“Sports Injuries and Low Back Pain” <u>Bethany Medical Conference</u> Bethany Medical Center Kansas City, KS</p>
10/12/90	<p>“Sports Injuries” Trinity Lutheran Hospital Kansas City, MO</p>
10/11/90	<p>“Prevention and Treatment of Catastrophic Sports Injuries” Kansas University Medical Center; Kansas City, MO</p>
10/11/90	<p>“Arthritic Low Back Pain” Topeka Veterans Administration Hospital Topeka, KS</p>
10/11/90	<p>“Low Back Pain - Management and Exercise of Diabetic Patients” Providence - St. Margaret’s Hospital Kansas City, KS</p>
10/11/90	<p>“How to Live Painlessly with Arthritic Low Back Pain” Shawnee Mission Medical Center Overland Park, KS</p>
07/25/90	<p>“Sports Medicine and Primary Care” <u>Omni Specialty Sports Medicine Update American Medical Tennis Association</u> Waterville Valley, NH</p>
07/24/90	<p>“Anabolic Steroid Abuse in Athletics” <u>Omni Specialty Sports Medicine Update American Medical Tennis Association</u> Waterville Valley, NH</p>

07/23/90 “Catastrophic Sports Injuries in High School and College Sports”
Omni Specialty Sports Medicine Update American Medical Tennis Association
 Waterville Valley, NH

07/14/90 “Management of Osteoarthritic Sports Injuries”
 Health-in-Action Day
 Stratton Mountain, VT

07/11/90 “Health Benefits of Exercise”
 New England Correctional Center
 Concord, MA

05/24/90 “Intracranial Athletic Cervical Spine Injury”
 Symposium Co-chairman: Athletic Cervical Spine Injury
American College of Sports Medicine Annual Meeting
 Salt Lake City, UT

05/24/90 “On-the-Field Evaluation of Head and Spine Injuries”
 Clinical Workshop
American College of Sports Medicine Annual Meeting
 Salt Lake City, UT

05/23/90 “Neck Pain - Soccer”
American College of Sports Medicine Annual Meeting
 Salt Lake City, UT

05/23/90 “On-the-Field Evaluation of Head and Spine Injuries”
 Clinical Workshop
American College of Sports Medicine Annual Meeting
 Salt Lake City, UT

05/22/90 “Head Injuries in Sports: Biomechanics, Prevention, and Treatment”
 Clinical Lecture
American College of Sports Medicine Annual Meeting
 Salt Lake City, UT

05/07/90 Medical Resource for Breakout Medical Session
National Catastrophic Head/Spinal Cord Sports Injury Consensus Meeting
 National Federation of State High School Associations
 Kansas City, MO

05/04/90 “Catastrophic Sports Injuries”
 Conference Chairman
Sports Medicine Update 90
 Westford, MA

04/30/90 “The Athlete and the Neurosurgeon”
 Breakfast Seminar Panel Chairman
American Association of Neurological Surgeons
 Nashville, TN

04/23/90 “Diagnosis, Prevention, and Treatment of Athletic Spine Injuries”
 Kaiser Permanente HMO
 Holyoke, MA

04/18/90	<p>“Burners/ Stingers /Cervical Spine Injuries”; “Concussions” <u>First Annual Sports Medicine Conference on the Beach</u> Halifax Medical Center Family Practice Residency Program Daytona Beach, FL</p>
04/06/90	<p>“Sports Medicine: Bridging the Gap” Penobscot Bay Medical Center Rockland, ME</p>
04/05/90	<p>“Low Back Pain: Etiology, Diagnosis, and Treatment” Eastern Maine Medical Center Bangor, ME</p>
03/30/90	<p>“Cervical and Low Back Pain: Diagnosis and Treatment” St. Vincent Hospital Family Practice Residency Program Erie, PA</p>
03/30/90	<p>“Catastrophic Sports Injuries” Hamot Family Practice Erie, PA</p>
03/30/90	<p>“Low Back Pain: Etiology, Diagnosis, and Treatment” Millcreek Community Hospital Erie, PA</p>
03/29/90	<p>“Low Back Pain: Etiology, Diagnosis, and Treatment” Aviation Country Club Erie, PA</p>
03/23/90	<p>“Low Back Pain: Etiology, Diagnosis, and Treatment” Hanscom Clinic - Hanscom Field Air Force Base Bedford,MA</p>
02/09/90	<p>“Catastrophic Football Spine Injuries; 1977-1988” <u>Joint Section on Disorders of the Spine and Peripheral Nerves</u> <u>American Association of Neurological Surgeons</u> Captiva Island, FL</p>
02/03/90	<p>“The Neurosurgeon and the Amateur Athlete” <u>Downeast Association of Physician Assistants Winter Conference</u> Bethel, ME</p>
01/12/90	<p>“Exercise for Health vs Fitness: How much is enough?” <u>Community Health Lecture Series</u> Emerson Hospital Concord, MA</p>
10/24/89	<p>“Adolescents and Anabolic Steroids” <u>Pediatric Grand Rounds</u> Baystate Medical Center Springfield, MA</p>

10/17/89 “Prevention and Treatment of Spinal Injuries in Athletes”
St. Francis Health Care Foundation Endowed Lecture Series
St. Francis Hospital
Poughkeepsie, NY

10/04/89 “Steroids - The Threat and Dangers”
Massachusetts Interscholastic Athletic Association, Inc Annual Sports Injury Conference
Milford, MA

09/23/89 “Indications/ Contra-Indications For Surgery in the Arthritic Patient”
Health-in-Action Day
Nova Scotia, Canada

09/16/89 “Rehabilitation at Fitness Centers”
Sponsored by Nautilus Sports Medical Industries, Inc.
Vista International Hotel
Elizabeth, NJ

07/25/89 “Anabolic Steroid Abuse in Athletics”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Waterville Valley, NH

07/24/89 “Catastrophic Sports Injuries in High School and College Sports”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Waterville Valley, NH

06/13/89 “Case Presentations”
Monroe County Highland Hospital Grand Rounds
Rochester, NY

06/13/89 “Cervical and Low Back Spine”
Monroe County Highland Hospital Grand Rounds
Rochester, NY

06/12/89 “Cervical and Low Back Spine”
Sponsored by Monroe County Highland Hospital Physicians Assistants
Pittsford, NY

06/10/89 “Low Back Pain: Etiology, Diagnosis, and Treatment”
Sheehan Memorial Hospital
Buffalo, NY

06/10/89 “Low Back Pain: Etiology, Diagnosis, and Treatment”
Our Lady of Victory Hospital Grand Rounds
Lackawanna, NY

06/05/89 “Sports Medicine in Primary Care”
Williamsville, NY

06/05/89 “Sports Medicine in Primary Care”
Niagara Falls Memorial Hospital
Niagara Falls, NY

05/05/89 “Steroid Abuse in Athletics”
Sports Medicine Update 89
 Westford, MA

04/28/89 “Cervical and Lumbar Osteoarthritis,”
St. Anne’s Hospital Grand Rounds
 Fall River, MA

04/24/89 “Medical Management of Low Back Pain”
 Hunt Memorial Hospital
 Danvers, MA

04/12/89 “Nutrition and Exercise For the Senior Citizen”
 Trinitarian Church
 Concord, MA

04/10/89 “Prevention and Treatment of Athletic Spine Injuries”
 Sponsored by Cooley Dickinson Hospital
 Northampton, MA

03/17/89 “Chronic Low Back Pain”
St. John’s Hospital Grand Rounds
 Lowell, MA

03/16/89 “Low Back Pain: Etiology, Diagnosis, and Treatment”
 Mercy Hospital
 Buffalo, NY

03/16/89 “Prevention and Treatment of Athletic Spine Injuries”
Millard Fillmore Hospital Grand Rounds
 Buffalo, NY

03/15/89 “Low Back Pain: Etiology, Diagnosis, and Treatment”
 Blasdell, NY

03/02/89 “Common Sports Injuries”
 Youville Hospital
 Cambridge, MA

02/24/89 “Catastrophic Sports Injuries”
6th Annual Office-Based Sports Medicine Conference
 Sun Valley, ID
 Sponsored by University of California School of Medicine at San Francisco

02/24/89 “When to Return to Contact Sports After a Concussion”
6th Annual Office-Based Sports, Medicine Conference
 Sun Valley, ID
 Sponsored by University of California School of Medicine at San Francisco

02/24/89 “Athletic Low Back Pain”
6th Annual Office-Based Sports Medicine Conference
 Sun Valley, ID
 Sponsored by University of California School of Medicine at San Francisco

02/22/89 “Acute and Chronic Brain Injuries in Boxing and Other Collision Sports”
6th Annual Office-Based Sports Medicine Conference
 Sun Valley, ID
 Sponsored by University of California School of Medicine at San Francisco

02/22/89 “On-the-Field-Management of Athletic Head and Spine Injuries”
6th Annual Office-Based Sports Medicine Conference
 Sun Valley, ID
 Sponsored by University of California School of Medicine at San Francisco

02/08/89 “Osteoarthritis of the Lumbar Spine”
New Britain Hospital Grand Rounds
 New Britain, CT

02/08/89 “Sports Medicine In Primary Care”
Stamford Hospital Grand Rounds
 Stamford, CT

02/07/89 “Feeling Fit After Forty”
Community Health Lecture Series
 Emerson Hospital
 Concord, MA

02/03/89 “Osteoarthritis of the Lumbar Spine”
 Harvard Community Health Plan
 Braintree, MA

01/20/89 “Catastrophic Injuries in High School and College Athletes”
The Second International Symposium on the Prevention of
 Catastrophic Sports and Recreational Injuries to the Spine and Head
 Toronto ,Canada

01/19/89 “Head Injuries: The Experience in the United States”
The Second International Symposium on the Prevention of
 Catastrophic Sports and Recreational Injuries to the Spine and Head
 Toronto, Canada

01/18/89 “Steroid Abuse in Athletics”
Sports Medicine Symposium Connecticut State Medical Society
 Choate School
 Wallingford, CT

01/17/89 “Catastrophic Sports Injuries”
Connecticut State Medical Society
 Cheshire, CT

01/11/89 “Diagnosis and Treatment of Degenerative Cervical and Lumbar Spine Disease”
Henry Heywood Hospital Grand Rounds
 Gardner, MA

01/11/89 “Athletic Low Back Pain”
 Sports Medicine Systems
 Newton, MA

12/20/88 “Low Back Pain”
Milford-Whitinsville Regional Hospital Grand Rounds
Milford, MA

12/10/88 “Head and Neck Injuries in Sports”;
“On-the-Field Management of Head and Neck Injuries”
American Physical Therapy Association
Hilton Head Island, SC

11/21/88 “Women and Sports - Special Concerns”
The Daisy Flour Mill
Rochester, NY

11/21/88 “Sports Medicine In Primary Care”
Genesee Memorial Hospital Grand Rounds
Batavia, NY

11/11/88 “Which Sports Are At Greatest Risk and What Is Being Done”;
“Sports Medicine-Sports Science: Bridging the Gap”
Kent County Hospital Grand Rounds
Warwick, RI

10/28/88 “Osteoarthritis Due To Spinal Injuries”
Cutler Army Hospital Grand Rounds
Fort Devens, MA

10/07/88 “Health Enhancement Through Physical Conditioning”
Concord Fitness Club
Concord, MA

10/05/88 “Head and Neck Injuries”
Sports Medicine Workshop
Boxborough, MA

09/29/88 “Arthritic Low Back Pain”
Health-In-Action Day
Boston, MA

09/22/88 “Prevention and Recognition of Athletic Head and Spine Injuries”
Sports Medicine Update: Prevention and Treatment of Fall Sports Injuries
Albany Medical College
Albany, NY

09/13/88 “Emergency Care of the Injured Athlete”
Littleton Junior-Senior High School
Littleton, MA

08/12/88 “Osteoarthritis and Sports Injuries”
Brockton Hospital Grand Rounds
Brockton, MA

- 07/27/88 “Catastrophic Sports Injuries”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Waterville Valley, NH
- 07/26/88 “When To Return To Contact Sports After A Head Injury”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Waterville Valley, NH
- 07/25/88 “Prevention of Athletic Spine Injuries”
Omni Specialty Sports Medicine Update American Medical Tennis Association
Waterville Valley, NH
- 06/24/88 “The Diagnosis and Treatment of Degenerative Cervical and Lumbar Spine Disease”
Binghamton General Hospital Grand Rounds
Binghamton, NY
- 06/24/88 “Low Back Pain: Etiology, Diagnosis, and Treatment”
Binghamton, NY
- 06/23/88 “Athletic Catastrophic Sports Injury Study (1931-1987):
Which Sports Are At Greatest Risk and What Is Being Done To Reduce Injury”
Binghamton, NY
- 06/17/88 “Osteoarthritis - As It Relates To Sports Injuries”
St. John’s Hospital Grand Rounds
Lowell, MA
- 06/10/88 “Catastrophic Sports Injuries: Which Sports Are At Greatest Risk
and What Is Being Done To Reduce Injury”
Sports Medicine Update ‘88
Westford, MA
- 05/31/88 “Head and Neck Injuries in Rugby”
International Conference on Rugby Injuries
Boston, MA
- 05/28/88 “Sudden Death - Ice Hockey”
American College of Sports Medicine Annual Meeting
Dallas, TX
- 05/28/88 “Catastrophic Sports Injuries: Which Sports Are At Greatest Risk
and What Is Being Done To Reduce Injury”
American College of Sports Medicine Annual Meeting
Dallas, TX
- 05/27/88 “Discogenic Low Back Pain”
American College of Sports Medicine Annual Meeting
Dallas, TX
- 05/26/88 “Cervical Spine Evaluation”
Clinical Workshop
American College of Sports Medicine Annual Meeting
Dallas, TX

05/26/88 “Headache and Convulsion - Aerobic Exercise”
Clinical Lecture
American College of Sports Medicine Annual Meeting
Dallas, TX

05/25/88 “When to Return to Contact Sports After a Cerebral Concussion”
Tutorial Lecture
American College of Sports Medicine Annual Meeting
Dallas, TX

04/28/88 “Football Catastrophic Sports Injury Experience 1987”
Sports Medicine Section
American Association of Neurological Surgeons
Toronto, Canada

04/25/88 “When to Return to Contact Sports After Head Injury”
Panel Chairman: Breakfast Seminar
American Association of Neurological Surgeons
Toronto, Canada

03/24/88 “High School and College Catastrophic Sports Injury Survey:
Which Sports Are At Greatest Risk and What is Being Done To Reduce Injury”
Drake University Sports Medicine Conference
Des Moines, IA

03/24/88 Returning to Action After a Head Injury”
Drake University Sports Medicine Conference
Des Moines, IA

03/10/88 “Catastrophic Injuries in High School and College Athletes”
Writer’s Conference American College of-Sports Medicine
New York, NY

03/05/88 “Return to Contact Sports After a Cerebral Concussion”
Fitness in Sports Fourth Annual Conference
Fort Worth, TX

02/09/88 “Feeling Fit After Forty”
Community Health-Lecture Series
Emerson Hospital
Concord, MA

01/31/88 “Update on Field Management of Head and Neck Injury”
1988 Lake Placid Sports Medicine Conference
Lake Placid, NY

01/30/88 “Concussion in Athletes”
1988 Lake Placid Sports Medicine Conference
Lake Placid, NY

11/06/87 “Head, Neck, and Back Injuries”
American College of Sports Medicine, New England Chapter
Worcester, MA

11/04/87	<p>“Low Back Pain” <u>Nashoba Community Hospital Grand Rounds</u> Ayer, MA</p>
09/20/87	<p>“When to Return to Contact Sports After a Head Injury” <u>New Hampshire Medical Society</u> Mt. Washington, NH</p>
08/07/87	<p>“When to Return to Contact Sports After a Cerebral Concussion” <u>Community Health Lecture</u> Emerson Hospital Concord, MA</p>
08/03/87	<p>“Comparison of Exercycle and Monark Bicycles: Maximal Oxygen Uptakes” Exercycle Corporation Newport, RI</p>
07/28/87	<p>“New Concepts in the Treatment of Spinal Injuries” <u>Symmes Hospital Grand Rounds</u> Arlington, MA</p>
06/05/87	<p>“When to Return to Contact Sports After a Cerebral Concussion” <u>New England Neurosurgical Society</u> Cambridge, MA</p>
05/29/87	<p>“On-Site Evaluation of Head and Spine Injuries” Clinical Workshop <u>American College of Sports Medicine Annual Meeting</u> Las Vegas, NV</p>
05/29/87	<p>“Acute and Chronic Brain Injury in Contact Sports: Historical Perspective and Overview” <u>American College of Sports Medicine Annual Meeting</u> Las Vegas, NV</p>
05/29/87	<p>“Acute and Chronic Brain Injury in Contact Sports” Symposium Chairman <u>American College of Sports Medicine Annual Meeting</u> Las Vegas, NV</p>
05/08/87	<p>“Role of the Neurosurgeon In Sports Medicine” Panel Chairman: Breakfast Seminar <u>American Association of Neurological Surgeons</u> Dallas, TX</p>
05/01/98	<p>When to Return to Contact Sports After a Cerebral Concussion <u>Sports Medicine Update '87</u> Westford, MA</p>
04/24/87	<p>“Extracranial Vascular Disease - The Carotid Endarterectomy Controversy” <u>Primary Care in Stroke: Putting the Puzzle Together</u> Westford, MA</p>

- 04/06/87 “Brain Injuries In Football and Boxing - Can They be Prevented?”
Hot Topics in Sports Medicine and Sports Science ‘87
New York, NY -
- 02/27/87 “Medical Aspects of Boxing”
American College of Sports Medicine Clinical Conference
Keystone, CO
- 02/26/87 “Discogenic Disease - Surgical and Non-Surgical Approaches”
American College of Sports Medicine Clinical Conference
Keystone, CO
- 02/24/87 “Concussion - What Is It?: Guidelines for Returning to Sports”
American College of Sports Medicine Clinical Conference
Keystone, CO
- 02/23/87 “Acute and Chronic Brain Injury and Contact Sports”
American College of Sports Medicine Clinical Conference
Keystone, CO
- 01/08/87 “Guidelines for Return to Contact Sports After a Cerebral Concussion”
International Symposium on the Prevention of Catastrophic Sport, and Recreational Injuries to the Spine and Head
Toronto, Canada
- 01/07/87 “The Activities Leading to Head Injury”
International Symposium on the Prevention of Catastrophic Sports and Recreational Injuries to the Spine and Head
Toronto, Canada

Bruce Deal, Analysis Group

BRUCE F. DEAL
Managing Principal
Analysis Group

Updated July, 2014

Phone: (650) 853-7201
Fax: (650) 323-2796
bdeal@analysisgroup.com

1010 El Camino Real, Suite 310
Menlo Park, CA 94025

Mr. Deal is a Managing Principal of Analysis Group and leads the economic consulting practice in the Menlo Park, California office. He has over 20 years of experience in economic, litigation and management consulting. He has developed and managed many assignments requiring complex economic analysis of publicly available and internal client information.

He has served as an expert witness in many litigation and regulatory matters, and has been retained as a neutral expert in a complex mediation. His work as an expert has covered a variety of practice areas, including antitrust, finance and securities litigation, damages, and business valuation. Mr. Deal's industry experience has included insurance, technology, healthcare, telecommunications and others.

Prior to joining Analysis Group, Mr. Deal spent several years as a Senior Consultant and Manager with Arthur Andersen. In this position, he provided financial and management consulting services to hospitals, physicians, and other clients, in such areas as operational organization and efficiency, merger and consolidation strategies, current and projected financial performance, and overall strategic planning.

Mr. Deal has taught economics and analytic methods to graduate students at Harvard University and published articles on economics-related topics. He has also consulted on national economic policy issues to the government of Indonesia through the Harvard Institute for International Development.

He co-authored a major report, *The Economic Effects of Federal Participation in Terrorism Risk* with Glenn Hubbard, an Analysis Group affiliate and former chair of the President's Council of Economic Advisers. In addition, he also co-authored a study, *Economic Impact Analysis: Proposition 71 California Stem Cell Research and Cures Initiative* with Laurence Baker, an Analysis Group affiliate and Stanford University School of Medicine faculty member, with whom he published an updated interim economic report on California's Stem Cell initiative. He is also the co-author of a chapter on the use of econometrics in antitrust litigation for a recent American Bar Association publication.

Bruce Deal, Analysis Group

Summary of Projects by Topic

Insurance (Health Insurance Included in Healthcare Section)

- *Life Insurance Consulting*
Valuation and analysis of a portfolio of large life insurance policies.
- *Long Trust v. Morgan Stanley*
Analysis of financial issues and damages resulting from alternative policy restructuring options for second-to-die estate planning life insurance policies.
- *Insurance Tax Litigation*
Consulting expert in a confidential tax litigation involving the tax treatment of certain insurance premiums.
- *Confidential Auto Insurance Litigation*
Analysis of issues relative to claims handling practices of a large auto insurance company.
- *Confidential Life Insurance Litigation*
Analysis of damages resulting from alternative portfolios of investments and second-to-die life insurance policies.
- *Confidential Insurance Litigation*
Analysis of damages resulting from lost commissions in an insurance broker insurance litigation.
- *Katz. v. Mass Mutual*
Analysis of potential damages in a disability insurance litigation.
- *Confidential Insurance Litigation*
Expert on insurance valuation and general damages issues in a dispute involving non-traditional life insurance.
- *Markocki v. Olde Republic Title Insurance*
Expert on class certification issues in a class action regarding charges for title insurance.
- *Campbell v. Metropolitan Life*
Expert on damages calculation in a disability insurance dispute.
- *Cox v. Allstate*
Expert on statistical sampling in the class certification phase of a class action alleging improper homeowners' insurance claims handling by Allstate.
- *Class Action v. Wellpoint*
Expert on class certification matters in a class action alleging improper termination of a health insurance company.
- *Confidential Title Insurance Matter*
Consulting effort on class certification matters in a large multi-state class action.

Bruce Deal, Analysis Group

- *Estate Planning Life Insurance Matter*
Consulting expert analyzing issues associated with the economic performance of a portfolio of large estate planning life insurance policies.
- *Confidential Homeowners' Insurance Matter*
Consulting expert analyzing issues associated with the use of various data sources to obtain replacement values.
- *Confidential Indemnity Insurance Investigation*
Consulting expert analyzing issues associated with the deterioration of a set of financial products insured by an indemnity insurer.
- *Confidential Auto Insurance Investigation*
Consulting expert analyzing various aspects of auto insurance claims issues.
- *Confidential Life Insurance Litigation*
Consulting expert valuing life insurance policies and other damages issues.
- *Confidential Life Insurance Litigation*
Consulting expert valuing life insurance policies and other damages issues.
- *Hausman v. Union Bank*
Testifying damages expert valuing life insurance policies and other damages issues. Expert report provided.
- *Perez v. First American Title Insurance Company*
Testifying expert evaluating class certification issues relating the use of electronic data in identifying class members.
- *Windham v. Cook Life Insurance Litigation*
Testifying expert valuing policy performance of a variable universal life insurance contract used in a tax planning program. Expert report and trial testimony provided.
- *Confidential Class Action Litigation*
Consulting expert analyzing statistical issues associated with the use of a software package used to assist in evaluating bodily injury claims.
- *Confidential Class Action Litigation*
Consulting expert analyzing statistical issues associated with diminished value claims in auto insurance.
- *Pavlov et. al. v. CNA*
Testifying expert analyzing class certification issues associated with long term care insurance.
- *Confidential Class Action Litigation*
Consulting expert analyzing statistical issues associated with claims handling in auto insurance.
- *Class Action v. CNA*
Testifying expert in case involving long term care insurance premium rates.

Bruce Deal, Analysis Group

- *Confidential Pension Litigation, August, 2006 – ongoing*
Consulting expert in analysis of actuarial and accounting issues in a defined benefit pension plan.
- *Best Buy v DDR, October, 2006 – ongoing*
Testifying expert in analysis of insurance costs applicable to common areas of retail developments.
- *Barnes & Noble v DDR, May, 2005 – December, 2006*
Testifying expert in analysis of insurance costs applicable to common areas of retail developments.
- *Fireman's Fund v. Cunningham Lindsey, April, 2005 – February 2007*
Testifying expert in analysis of damages related to third-party administration of a commercial auto insurance program.
- *Confidential Regulatory Investigation, May, 2005 – March, 2006*
Consulting expert in analysis of policy forms used by a property casualty insurer and corresponding policy forms approved by state regulators.
- *Variable Annuity Writer, February, 2005- ongoing*
Consulting expert in analysis of remediation for deficiencies in administering variable annuities. Assisting with analyzing remediation package and negotiating with regulators and other parties.
- *CSR v. Lloyd's Underwriters, May, 2004 –December, 2004*
Testifying expert in coverage litigation involving liability insurance. Report focused on the availability and worldwide capacity for liability insurance during the relevant periods.
- *Economic Impact of Federal Participation in Terrorism Risk, May, 2004 –September, 2004*
Co-author study with Professor Glenn Hubbard, former Chair of the Council of Economic Advisers. Study focuses on the economic impact of the Federal TRIA terrorism legislation and the economic impact of failing to renew the legislation. Study commissioned by numerous insurance trade organizations.
- *Class Action v. Allstate, May, 2002 – May, 2004*
Consulting expert on damages and other issues relating to the estimation of inherent diminished value that may still be present after a vehicle has been repaired following an accident.
- *Class Action v. American Home, November, 2002 – December, 2002*
Damages expert for American Home in a litigation involving alleged mis-reporting of certain types of claims to the Workers' Compensation Insurance Rating Bureau (WCIRB) of California.
- *Class Action v. State Compensation Insurance Fund, December, 1997 – December, 2002*
Damages expert for plaintiffs in a litigation involving claims estimation and reserving practices of State Compensation Insurance Fund in California.
- *Class Action v. Knights of Columbus, 2001 – June 2004*
Economic expert for the Knights of Columbus in a major sales practices litigation involving over 500,000 policyholders. Estimated the damage to policyholders under alternative theories of liability, including development of computer-based policy performance models.

Bruce Deal, Analysis Group

- *Various Confidential Class Action Litigations v. Mutual Life Insurance Companies, 1997 - 2001*
Consulting expert in the analysis of sales practices for four major class action litigations involving between 100,000 and 3.6 million policyholders. Work included estimating the incidence of various allegations, evaluating the financial exposure and recommending alternatives to management and directors.
- *Insurance Modal Premium Litigation, June, 2001 – December, 2002*
Consulting expert on issues relating to the estimation of potential damages exposure for modal premium litigation. Prepare preliminary analyses of economic costs and benefits of modal premium payments on policyholders.
- *Confidential Liability Insurance Coverage Litigation, January, 2001 – September, 2001*
Economic expert in insurance coverage litigation. Managed the abstracting and statistical analysis of information contained in paper records useful for determining the possible insurance coverage.
- *Confidential Disability Insurance Sales Practices Litigation, July, 2000 – December, 2002*
Consulting expert for issues related to the sale and product performance of individual disability insurance policies. Designed and implemented large data abstracting effort for the insurance company defendant and assisted in the development and implementation of a settlement for tens of thousands of policyholders.
- *Confidential Mortgage Insurance Litigation, March, 2000 – June, 2002*
Consulting expert in a large litigation involving primary mortgage insurance. Analysis of issues involving the provision of various types of services and insurance products.
- *Health Insurance Redesign Litigation, November, 1998 – February, 1999*
Consulting expert in the analysis of a major health insurance benefit redesign program. Analysis of various issues associated with estimating damages and developing overall damages models.
- *Confidential Insurance Coverage Litigation Involving Toxic Waste Cleanup Costs, August, 1998 – December, 2000*
Consulting expert in the analysis of the allocation of toxic waste cleanup costs across various insurance companies. Development of a sophisticated model to predict the allocation behavior of the claimant under alternative scenarios. Assist client personnel and counsel in modeling the impact on the client insurance company under different scenarios to assist in litigation and settlement negotiations.
- *Class Action v. Ohio National, July, 1998 – July, 1999*
Economic expert for Ohio National in a major class action litigation involving over 100,000 Whole Life and Universal Life policies. Estimated the incidence of various allegations, evaluated financial exposure, presented recommendation to management and outside counsel, and developed models to project ultimate class member “take rates” for particular forms of relief.
- *Arroyo v. Alexander & Alexander, November, 1998 – February, 1999*
Damages expert in a sales practices case involving the sale and subsequent performance of a Universal Life insurance policy. Analyzed exposure and damages.

Bruce Deal, Analysis Group

- *Life Insurance/Pension Program Litigation, November, 1998 – July, 1999*
Consulting and testifying expert in a complex sales practices case involving the sale of Universal Life insurance policies used to help fund a pension program for a large trade association. Analysis assisted counsel in determining exposure and damages.
- *Morris v. Fremont Life, November, 1998*
Consulting expert to assist in evaluating sales practices of an insurance agent selling an annuity product.
- *Archuletta v. Fremont Life, October, 1997*
Consulting expert to assist in refuting damages claims put forward by Plaintiff's expert regarding the sale and performance of a Universal Life insurance policy.

Finance and Securities

- *Confidential Investment Return Litigation*
Testifying expert in a confidential arbitration involving the expected rates of investment returns on different assets classes into the future.
- *Class Action Securities Litigation (Confidential)*
Consulting expert on loss causation issues in a large bondholder securities case.
- *Class Action Securities Litigation (Confidential)*
Consulting expert on loss causation issues in a large securities case.
- *Business Interruption (Confidential)*
Consulting expert in a case involving business interruption for a finance and securities firm.
- *Mortgage Securities Litigation (Confidential)*
Consulting expert in a class action litigation alleging that the financial performance of mortgage securities were adversely affected by poor underwriting and appraisals.
- *Securities Derivative Litigation (Confidential)*
Consulting expert in a derivative litigation alleging that an acquisition failed to adhere to appropriate corporate governance policies.
- *Confidential Cash-Balance Pension Litigation, August, 2010 – present*
Consulting expert in a litigation involving the damages calculation for a class of cash balance pension participants who terminated prior to retirement.
- *Confidential CDO Litigation, March, 2010 – present*
Consulting expert in a litigation involving the valuation, financial performance, and default history of various collateralized debt obligations.
- *Confidential Securities Litigation, January 2008 – 2010*
Consulting expert in a 10b-5 securities litigation.

Bruce Deal, Analysis Group

- *Confidential Tax Shelter Litigation, September 2007 - 2009*
Consulting expert in a tax litigation matter for the State of California analyzing the economic basis for an identified series of transactions.
- *Confidential Securities Class Action, October 2006 - 2009*
Consulting expert in large securities class action matter involving allegations of failure to provide accurate financial guidance.
- *Stock Option Backdating Litigation, July 2007 – 2009*
Consulting expert on stock option backdating matter.
- *Portfolio Diversification, August 2006 – July 2007*
Consulting expert on issues relating to portfolio diversification in a large trust.
- *Stock Option Backdating Litigation, November 2006 – 2008*
Consulting expert on stock option backdating matter in private securities litigation.
- *Confidential SEC Investigation, December 2006 – June 2007*
Consulting expert on SEC investigation relating to reinsurance disclosures.
- *Confidential Mutual Fund Litigation, May, 2006 – November, 2006*
Consulting expert on litigation related to late trading of international mutual funds.
- *Williams Communication Securities Litigation, October, 2004 – 2007*
Consulting expert on 10b5 litigation alleging audit failures led to stock decline. Case dismissed.
- *Class Action v. Ernst & Young, October, 2004 – 2005*
Consulting expert on 10b5 litigation alleging audit failures led to stock decline. Case went to verdict with a no liability verdict for client, Ernst & Young.
- *Confidential Securities Litigation, December, 2003 – 2004*
Consulting expert assisting academic affiliate in analysis focused on reasonableness of company disclosures based on internal company budgets and forecasts.
- *Confidential Securities Litigation, March, 2002 - 2003*
Consulting expert for counsel in securities litigation focused on company disclosures.
- *IRS v. Center Apartments, January, 2003 – 2003*
Consulting expert assisting Professor Steve Grenadier in the analysis of proper commercial apartment mortgage interest rates.
- *Class Action v. Major Investment Bank, October, 1997 – 1999*
Consulting expert analyzing the impact of releasing allegedly fraudulent investment information on the stock price of two small software companies for a 10b-5 securities litigation.
- *Class Action v. Conseco, January, 1999 - 1999*
Consulting expert analyzing the value of a proposed settlement involving Universal Life crediting rates. Assisted expert in the financial evaluation of the value of the proposed settlement using interest rate simulation models.

Bruce Deal, Analysis Group

- *IRS v. Major Retail Chain, 1998*
Consulting expert in defense of a major retail chain. Provided assistance in evaluating various expert reports involving the economic consequences of the purchase of a particular investment.
- *In re: NASDAQ Market Maker Antitrust Litigation, April, 1997 –1998*
Consulting expert analysis of millions of stock transactions for seven different NASDAQ market makers facing allegations of conspiracy and price-fixing.

Commercial Damages

- *2880 Stevens Creek v. Blach Construction, 2011-12*
Testifying expert on loss-of-use damages in litigation involving construction defects.
- *Polteco v. Tecsalt, 2006 – 2010*
Testifying expert on damages in litigation involving the failure of specialized machinery in a manufacturing operation.
- *Confidential Auto Dealership Litigation, 2008 -2009*
Analysis of liability and damages issues in litigation involving auto dealership sales practices.
- *F&A Restaurant Group v. Shepard and Reyes, 2006*
Analysis of damages relating to the sale of a restaurant. Provided arbitration testimony.
- *US Unwired v. Sprint, 2004 - 2005*
Assist Analysis Group affiliate Robert Hall in the damages analysis associated with the change in status of Sprint's affiliate, US Unwired. Case settled after trial testimony had been presented.
- *Confidential Enterprise Software Litigation, June, 2004 –2005*
Assist Analysis Group affiliate in the damages analysis associated with loss of business in the enterprise software market.
- *Her Associates v. Kaiser, October, 2003 –2004*
Damages expert for defense in litigation related to consulting firm's damages claim.
- *General American v. KPMG, January, 2003 –2004*
Damages expert for plaintiffs in litigation related to auditor's alleged obligation to disclose certain financial instruments.
- *Creative Artists v. County of Santa Clara, September, 2001 –2003*
Damages expert for defense in litigation related to the cancellation of musical events at facilities owned by the County of Santa Clara.
- *Class Action v. Ford Credit, Fall 2000 –2002*
Damages expert for plaintiffs analyzing the costs and charges associated with late fees on consumer auto leases.

Bruce Deal, Analysis Group

- *Bar None v. The Duncan Group, January, 2001 –2001*
Damages expert for defense analyzing damages associated with the failed efforts to develop a software program to be used in automating the sub-prime auto lending business.
- *Coram v. Aetna, January, 2000 –2000*
Consulting expert for defense analyzing the damages associated with a home healthcare contract that experienced higher costs than anticipated. Supported industry expert in the cost analysis.
- *Confidential Breach of Contract Litigation, September, 1999 –2000*
Consulting expert for defense analyzing the damages associated with the failed joint venture development of a removable storage device for personal computers. Supported academic expert in the analysis of damages.
- *Bourns v. Raychem, September, 1999 –2000*
Consulting expert for defense analyzing damages associated with the monopolization of the market for primary lithium battery safety devices. Supported academic experts in the analysis of damages.
- *Procter & Gamble v. Amway, April, 1997 –1999*
Consulting expert for plaintiff analyzing the impact of disparaging comments and rumors on the sales of Procter & Gamble products. Supported academic experts in the analysis of primary and secondary data sources and the development of surveys and laboratory experiments to test the impact of rumors on consumer behavior.

Valuation / Intellectual Property

- *Confidential Business Valuation*
Designated expert in a business valuation for a medical practice.
- *Confidential Patent Litigation*
Consulting expert in litigation involving PC networking technology.
- *Confidential Patent Litigation*
Consulting expert on determination of royalty amounts in a confidential semiconductor patent litigation.
- *Confidential High-Technology Manufacturing Company Valuation*
Valuation expert analyzing economic factors associated with the value of a closely held manufacturer of specialized high-technology components for defense applications.
- *Confidential Beverage Distributor Valuation*
Valuation expert analyzing the value of the large beverage distributor.
- *Confidential Patent Infringement Litigation*
Consulting expert on reasonable royalties and damages in the semiconductor industry.
- *Appaloosa Interactive Corporation v. Stephen Friedman and Related Cross-Actions, 2007*
Valuation and damages expert in the video game development industry.
- *Confidential Insurance Company Valuation, 2006 – 2008*

Bruce Deal, Analysis Group

Valuation expert analyzing the value of a private auto insurer.

- *Carrino v. Carrino, April, 2006 –2006*
Valuation expert analyzing the value of an investment management firm. Provided testimony in court.
- *Confidential Valuation, March 2006 –2006*
Valuation expert analyzing the value of capital contributions to a series of jointly invested real estate transactions.
- *Confidential Company Valuation, November 2005 –2006*
Valuation expert analyzing a privately held healthcare provider.
- *Confidential Company Valuation, October 2005 –2006*
Valuation expert analyzing a privately held consulting firm.
- *Confidential Software Distribution Dispute, November 2005 - 2006*
Damages expert in an arbitration involving software distribution.
- *Capo v. Dioptics, January – February 2005- 2006*
Intellectual property damages expert in a trade dress case involving protective sunglasses.
- *Arthur Stockton v. Fidelity & Deposit, September, 2004 –2005*
Analysis of the value of an investment management firm and any damages related to the payment of claims by the insurer.
- *Confidential Company Valuation, July, 2003 –2004*
Valuation expert analyzing a privately held construction firm.
- *Redlands Insurance Company v. Edward Wolkowitz, May, 2002 - 2002*
Valuation expert for plaintiff analyzing the valuation and rating analysis of Redlands Insurance Company, a property and casualty insurer.
- *Confidential Catastrophic Insurance Company Valuation, March, 2000*
Consulting expert for defense analyzing the valuation methodology used by the plaintiffs in the valuation of a catastrophic risk insurance modeling company.
- *Trigon v. United States of America, December, 2000 –2001*
Valuation expert for defense analyzing the valuation methodology used by plaintiffs' expert for intangible assets.
- *Synbiotics v. Heska, November, 1999 –2002*
Damages expert for defense in a patent infringement case involving antibody tests for animal diseases.
- *Air Products v. ATMI, November, 2000*
Damages expert in a patent infringement case involving gases used for semiconductor manufacturing.

Bruce Deal, Analysis Group

- *Confidential Telecommunications Equipment Trade Secret Litigation, March, 1999 –2000*
Consulting expert analyzing the potential damages from the sale of telecommunications equipment allegedly containing trade secrets. Support Analysis Group expert in the analysis of relevant data and development of reasonable royalty damages estimates and potential lost profits.
- *Bingo Card Minder v. Gametek, March, 1998 –1999*
Consulting expert analyzing reasonable royalties for a hand-held computer-based consumer product. Supported Analysis Group expert in the analysis of relevant data and development of reasonable royalty percentages.

Healthcare

- *Confidential Class Action Litigation*
Consulting expert on damages issues in a dispute over coverage issues for certain types of individual life insurance policies.
- *Confidential Payor/Provider Dispute*
Consulting expert on damages issues in a dispute between a payor and provider involving the payment terms and allowed services.
- *Confidential Payor/Provider Dispute*
Consulting expert on damages issues in a dispute between a payor and provider involving the payment terms and allowed services.
- *Confidential Arbitration*
Expert on damages issues in a dispute between a payor and provider affecting enrollment and profitability for a large Medicare managed care program and other patient programs.
- *Confidential Arbitration*
Expert on damages issues in a dispute between a payor and provider regarding a change in payment methodology.
- *Clark v Blue Shield*
Expert for defense assisting in the economic analysis of policy rescission.
- *Confidential Arbitration*
Expert on damages calculation in a dispute between a health insurer and a provider of supplemental insurance benefits.
- *Confidential Hospital Association*
Consultant assisting with evaluating Medicaid financing arrangements among hospitals.
- *Paul v Blue Shield*
Expert for defense assisting in the economic analysis of policy rescission.
- *Simoes v Blue Shield*
Expert for defense assisting in the economic analysis of policy rescission.

Bruce Deal, Analysis Group

- *Hailey v Blue Shield*
Expert for defense assisting in the economic analysis of policy rescission.
- *Leyra v. Blue Shield, June 2006 – January 2007*
Expert for defense assisting in the economic analysis of liability for policy rescission.
- *Sutter v. Blue Shield, June 2006 – November 2006*
Consulting expert for defense assisting in the economic analysis of hospital charges.
- *Various Health Insurance Matters, 2005 - 2009*
Consulting expert for defense assisting in the economic analysis of policy rescissions.
- *Class Action v. Health Insurer, June 2005 –2006*
Consulting expert for defense assisting in the economic analysis of liability for alleged misclassification of patient populations.
- *Missouri Stem Cell Economic Valuation, November, 2004 –2005*
Authored a study examining the likely economic impact of possible health research breakthroughs for healthcare costs in Missouri.
- *California Stem Cell Economic Impact Valuation, September, 2003 –2004*
Co-authored a study with Professor Laurence Baker of Stanford examining the likely economic impact of a proposed major health research initiative in California.
- *Health Guideline Analysis, June, 2000 –2003*
Consulting expert leading a team of health economists and statisticians in the evaluation of clinical and payment guidelines developed for heart valve replacement surgery.
- *California Attorney General v. Alta Bates/Summit Medical, September, 1999 –1999*
Consulting expert analyzing the ability of managed care plans to move patients in response to quality or price incentives. Supported industry expert in developing report and preparing for deposition.
- *Various Hospital Mergers, November, 1991 –1997*
Financial expert for various clients analyzing proposed mergers between not-for-profit community hospitals. Estimated the potential efficiencies resulting from the mergers, conducted market research on community needs, and presented findings to management, directors and outside counsel.
- *Class Action Health Insurance Litigation, June, 2000 –2001*
Hired by the nation's largest mediation service to serve as a neutral expert in a litigation involving the calculation of health insurance payments. Worked with experts from both sides and assisted the mediator in bringing the parties to a settlement.

Antitrust and Other Cases

- *Confidential Antitrust Investigation*
Consulting expert on antitrust issues in the automobile industry.

Bruce Deal, Analysis Group

- *U.S. Department of Justice v. Richard Bai*
Testifying expert on antitrust issues in a price-fixing case in the LCD industry.
- *Confidential Antitrust Investigation*
Consulting expert on antitrust issues in a high-technology industry.
- *Indirect Purchaser Class Action v. AUO, et al*
Designated testifying expert on antitrust issues in an alleged price-fixing case in the LCD industry.
- *Korean Fair Trade Commission v. AUO, et al*
Designated testifying expert on antitrust issues in an alleged price-fixing case in the LCD industry.
- *U.S. Department of Justice v. AUO*
Designated testifying expert on antitrust issues in an alleged price-fixing case in the LCD industry.
- *Confidential Antitrust Investigation, 2007 - ongoing*
Consulting expert on antitrust issues in a high technology industry.
- *Confidential Predatory Pricing Litigation , 2008 - ongoing*
Consulting expert on litigation related to antitrust claims in the replacement auto parts industry.
- *Confidential Private Antitrust Litigation, May 2006 - 2010*
Consulting expert on litigation related to antitrust claims in the building construction industry.
- *Regulatory Investigation, March 2006 –2007*
Consulting expert for government regulatory body investigating allegations of consumer overcharges.
- *Class Action v. Noranda and DuPont, May 2005 –2006*
Consulting expert for defense assisting in the economic analysis of liability for alleged antitrust violations affecting sulfuric acid in the United States.
- *Class Action v. Microsoft, November 2001 –2007*
Consulting expert for defense assisting in the economic analysis of antitrust liability and damages issues in a series of price overcharge litigations. Assist various academic affiliates, including Professor Robert Hall.
- *Neon v. BMC Antitrust Litigation, March, 1999 –1999*
Consulting expert for plaintiffs analyzing antitrust violations in the sale of computer software for large computer databases. Support academic affiliate expert in the analysis of relevant data and development of damages estimates.
- *CFM. v. Dainippon Screen Mfg. Co., August, 2000 –2001*
Consulting expert for defense analyzing the potential monopolization by CFM of the semiconductor cleaning market. Support academic affiliate, Professor Robert Hall.
- *Proposed merger of WorldCom and Sprint, February, 2000 –2000*
Consulting expert assisting in the economic evaluation of the proposed merger between WorldCom and Sprint. Evaluate issues relating to market share and pricing of residential long distance services.

Bruce Deal, Analysis Group

EDUCATION

- 1994-97 Ph.D. coursework completed, Public Policy, Graduate School of Arts and Sciences, Harvard University, Cambridge, MA
- 1990 M.P.P., Public Policy, Kennedy School of Government, Harvard University, Cambridge, MA
- 1987 BA, *Summa cum Laude*, Economics and Global Studies, Pacific Lutheran University, Tacoma, WA

TEACHING

- 1994-96 Teaching Fellow, *Analytic Methods*, Kennedy School of Government, Harvard University.
- 1994-96 Instructor, *Economics Summer Program for Mid-Career Graduate Students*, Kennedy School of Government, Harvard University.
- 1989-90 Teaching Assistant, *Statistics*, Kennedy School of Government, Harvard University

PUBLICATIONS AND REPORTS

“*Presentation of the Results*”, chapter co-authored with Samuel Weglein, *Econometrics: Legal, Practical, and Technical Issues*, Published by the American Bar Association, 2014.

Deal, Bruce and Baker, Laurence, CIRM (California Stem Cell Agency) - *Interim Economic Impact Review*, October 10, 2008

“Risk Management and the Economic Impact of Terrorism,” with Peter Hess, Chapter in *Business Continuity and Homeland Security, Volume 1*, edited by David H. McIntyre and William I. Hancock, Edward Elgar Publishing, London, UK, forthcoming (April 2008).

Deal, Bruce, *Winning Initiative Campaigns with Economic Analysis*, Campaigns & Elections, February 2006: 39.

Hubbard, R. Glenn, Bruce Deal, and Peter Hess, *The Economic Effects of Federal Participation in Terrorism Risk*, Risk Management and Insurance Review, 2005, Vol. 8, No. 2, 177-209.

Bruce Deal, Analysis Group

Baker, Lawrence and Bruce Deal, *Some Economic Implications of State Stem Cell Funding Programs*, Prepared for “States and Stem Cells: A Symposium on the Policy and Implications of State-Funded Stem Cell Research, Woodrow Wilson School, Princeton University, April 15, 2005

Deal, Bruce, *Health Analysis of the Potential Benefits of SCNT Stem Cell Research and Therapies in Missouri: Patient Population and Health Care Costs*, February 8, 2005

Deal, Bruce and Hubbard, Glenn, *The Economic Effect of Federal Participation in Terrorism Risk*, September 14, 2004

Deal, Bruce and Baker, Laurence, *Economic Impact Analysis Proposition 71: California Stem Cell Research and Cures Initiative*, September 14, 2004

Deal, Bruce and Tiscornia, John F., “Hospital Consolidation: Optimal Strategy for a Two-Hospital Town”, in Austin Ross and Mary Richardson, eds., *Ambulatory Health Care: Case Studies for the Health Services Executive*, Health Administration Press, 1996.

PRESENTATIONS

“Modern Strategies & Approaches in Consumer Class Action Suits”, presented on expert witness issues at a continuing education forum for attorneys sponsored by the National Law Journal, November, 2012

“The Subprime Mortgage Crisis and Disclosures: What Went Wrong?”, presented at a Webinar continuing education forum for attorneys sponsored by Analysis Group/Economics, July 29, 2008

“The Subprime Mortgage Crisis and Disclosures: What Went Wrong?”, presented at a continuing education forum for attorneys sponsored by Analysis Group/Economics, June 24, 2008, San Francisco, CA.

“Stock Option Backdating”, presented at a continuing education forum for attorneys sponsored by Analysis Group/Economics, March 21, 2007, New York, NY.

“Stock Option Backdating”, presented at a continuing education forum for attorneys sponsored by Analysis Group/Economics, November 7, 2006, Menlo Park, California and San Francisco, California.

“Overview of Stem Cell Legislation”, Moderator and Presenter at Presentation on Implementing California’s Stem Cell Initiative, March 9, 2004, Sponsored by the Food and Drug Law Institute (FDLI) San Mateo, CA

Bruce Deal, Analysis Group

“Challenges to Expert Testimony”, Presentation at Law Seminar International Conference, November 5, 2004, San Francisco

“Federal Terrorism Insurance Panel Discussion”, Presentation and Panel Participant, National Press Club, Washington D.C., October 24, 2004

“Insurance 101”, presentation on the design and performance of Whole Life and Universal Life policies, presented to Customer Services Representatives administering a life insurance sales practices settlement, April 27, 1999, Ogden, Utah.

“Antitrust Case Study: NASDAQ Market Maker Litigation”, presented at a continuing education forum for attorneys sponsored by Analysis Group/Economics, September 15, 1998, Menlo Park, California and San Francisco, California.

“An Economist’s Perspective on Life Insurance Sales Practices Problems”, presented at the Spring Meeting of the Society of Actuaries, June 15, 1998, Maui, Hawaii.

“Valuing Intellectual Property in an Age of Employee Mobility”, presented at a continuing education forum for attorneys sponsored by Analysis Group/Economics, June 9, 1998, Menlo Park, California and San Francisco, California.

Bruce Deal, Analysis Group

EXPERT DESIGNATION, TESTIMONY AND REPORTS

May, 2013	Expert report in <i>Martin v. Blue Shield of California</i>
May, 2013	Expert declaration in <i>Martin v. Blue Shield of California</i>
December, 2013	Expert testimony in <i>Confidential Investment Return Litigation</i> .
December, 2013	Expert deposition in <i>Confidential Investment Return Litigation</i> .
November, 2013	Expert declaration in <i>Long Trust v. Morgan Stanley</i> .
November, 2013	Expert report in <i>Long Trust v. Morgan Stanley</i> .
November, 2013	Expert testimony in <i>Confidential Employment Litigation</i>
November, 2013	Expert deposition in <i>Confidential Employment Litigation</i>
November, 2013	Expert deposition in <i>Katz. v. Mass Mutual</i>
October, 2013	Expert report in <i>Katz. v. Mass Mutual</i>
October, 2013	Expert report in <i>Circuit City et.al. v. AUO</i>
October, 2013	Summary witness expert testimony in <i>U.S. Department of Justice v. Richard Bai</i>
January, 2013	Expert testimony in <i>Confidential Arbitration</i>
January, 2013	Expert deposition in <i>Confidential Arbitration</i>
December, 2012	Expert declaration in <i>Markocki v. Olde Republic Title</i>
December, 2012	Expert deposition in <i>Paul v. Blue Shield of California</i>
June, 2012	Expert deposition in <i>Indirect Purchaser Class Action v. AUO</i>
June, 2012	Expert deposition in <i>Asbestos Litigation v. Borg Warner</i>
May, 2012	Expert report in <i>Indirect Purchaser Class Action v. AUO</i>
April, 2012	Expert deposition in <i>2880 Stevens Creek vs. Blach Construction Co.</i>
April, 2012	Expert deposition in <i>Indirect Purchaser Class Action v. AUO</i>
March, 2012	Expert report in <i>Indirect Purchaser Class Action v. AUO</i>
February, 2012	Expert testimony in <i>United States Department of Justice v. AUO</i>
February, 2012	Expert deposition in <i>Campbell v. MetLife</i>

Bruce Deal, Analysis Group

November, 2011	Expert deposition in <i>Cox v. Allstate</i>
October, 2011	Expert report in <i>Cox v. Allstate</i>
October, 2011	Expert deposition in <i>Class Action v. Wellpoint</i>
October, 2011	Expert designation in <i>DOJ v. AUO</i>
October, 2011	Expert report in <i>KFTC v. AUO</i>
July, 2011	Expert report in <i>Class Action v. Wellpoint</i>
June, 2011	Expert report in confidential damages arbitration
November, 2010	Expert testimony in <i>Jasmine v. Marvell</i>
October, 2010	Expert testimony in <i>U.S. Government v. Jerry Cash</i>
July, 2010	Expert deposition in <i>M.E. Fox & Co. Valuation matter</i>
June, 2010	Expert designation in <i>M.E. Fox & Co. Valuation matter</i>
May-June, 2010	Expert testimony in <i>Polteco v. Tecsub</i>
March, 2010	Expert deposition in <i>Simoos v. Blue Shield</i>
December, 2009	Expert designation in <i>Simoos v. Blue Shield</i>
October, 2009	Affidavit in <i>Best Buy v. DDR</i>
March, 2009	Expert deposition in <i>Hailey v. Blue Shield</i>
March, 2009	Expert report in <i>Hausman v. Union Bank</i>
March, 2009	Expert report in <i>Perez v. First American Title Insurance Company</i>
March, 2009	Trial testimony in <i>Windham v. Cook</i>
February, 2009	Expert report in <i>Windham v. Cook</i>
January, 2009	Expert designation in <i>Hailey v. Blue Shield</i>
October, 2008	Deposition testimony in <i>Pavlov et. al. v. CNA</i>
September, 2008	Expert declaration in <i>Pavlov et. al. v. CNA</i>
September, 2008	Trial testimony in <i>Freidman v. Sega et. al.</i>
September, 2008	Expert report in <i>Freidman v. Sega et. al.</i>
July, 2008	Deposition testimony in <i>Freidman v. Sega et. al.</i>

Bruce Deal, Analysis Group

July, 2008	Deposition testimony in <i>Best Buy v. DDR</i>
June, 2008	Expert report in <i>Best Buy v. DDR</i>
October, 2007	Expert designation in <i>Rowlands v. Blue Shield</i>
September, 2007	Deposition testimony in <i>Class Action v. CNA</i>
September, 2007	Expert report in <i>Class Action v. CNA</i>
May, 2007	Deposition testimony in <i>Tronox v. Rio Algom</i>
April, 2007	Expert designation in <i>Callil v. Blue Shield</i>
April, 2007	Expert designation in <i>Abbott v. Blue Shield</i>
March, 2007	Deposition testimony in <i>Leyra v. Blue Shield Life and Health</i>
December, 2006	Expert designation in <i>Leyra v. Blue Shield Life and Health</i>
August, 2006	Arbitration testimony in <i>F&A Restaurant Group v. Shepard and Reyes</i>
July, 2006	Trial testimony in <i>Carrino v. Carrino</i>
July, 2006	Deposition testimony in <i>Carrino v. Carrino</i>
February, 2006	Arbitration testimony in <i>ART v. Riverdeep</i>
January, 2006	Deposition testimony in <i>ART v. Riverdeep</i>
December, 2005	Deposition testimony in <i>FFIC v. Cunningham Lindsey</i>
September, 2005	Deposition testimony in <i>Barnes & Noble v. DDR (Texas and Kansas)</i>
September, 2005	Expert report in <i>Fireman's Fund v. Cunningham Lindsey</i>
September, 2005	Expert report in <i>Barnes & Noble v. DDR (Kansas)</i>
August, 2005	Expert report in <i>Barnes & Noble v. DDR (Texas)</i>
March, 2005	Expert report in <i>Bioport Corporation v. Elan Pharmaceuticals</i>
February, 2005	Expert report in <i>Capo v. Dioptics</i>
February, 2005	Expert report in <i>Arthur Stockton v. Fidelity & Deposit</i>
September, 2004	Deposition testimony in <i>Her Associates v. Kaiser</i>
August, 2004	Deposition testimony in <i>CSR v. Lloyds et al.</i>

Bruce Deal, Analysis Group

June, 2004	Expert report in <i>CSR v. Lloyds et al.</i>
April, 2004	Deposition testimony in <i>General American v. KPMG</i>
March, 2004	Expert report in <i>General American v. KPMG</i>
March, 2004	Deposition testimony in confidential company valuation for marital dissolution.
February, 2004	Expert report in confidential company valuation for marital dissolution.
January, 2004	Deposition testimony in <i>Her Associates v. Kaiser.</i>
January, 2004	Expert report in <i>Her Associates v. Kaiser.</i>
March, 2003	Expert designation in <i>Creative Artist Network v. Santa Clara County</i>
December, 2002	Deposition testimony in <i>Redland Insurance Company v. Anthony Choy and Edward Wolkowitz</i>
November, 2002	Expert designation in <i>Academy Tent et al. Class Action v. American Home Assurance.</i>
Sept. – Dec., 2002	Trial testimony in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
September, 2002	Deposition testimony in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
July, 2002	Expert witness report in <i>Creative Artist Network v. Santa Clara County</i>
July, 2002	Deposition testimony in <i>Redland Insurance Company v. Anthony Choy and Edward Wolkowitz</i>
June, 2002	Expert declaration on insurance company valuation in <i>Redland Insurance Company v. Anthony Choy and Edward Wolkowitz</i>
May, 2002	Expert declaration on settlement valuation in <i>Class Action v. Knights of Columbus</i>
Jan - Feb, 2002	Deposition testimony in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
December, 2001	Deposition testimony in <i>Class Action v. Ford Credit</i>
May, 2001	Deposition testimony in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
April, 2001	Deposition testimony in <i>Bar None v. The Duncan Group</i>
April, 2001	Deposition testimony in <i>Trigon v. United States</i>

Bruce Deal, Analysis Group

January, 2001	Deposition testimony in <i>Heska v. Synbiotics</i>
December, 2000	Expert declaration in <i>Trigon v. United States</i>
June, 2000	Deposition testimony in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
May, 2000	Deposition testimony in <i>Heska v. Synbiotics</i>
July, 1999	Appeared in Federal Court on behalf of Ohio National in <i>James A. Wemer, et al. Class Action v. Ohio National</i> (did not provide testimony)
June, 1999	Submitted a report on the valuation and fairness of the proposed settlement in <i>James A. Wemer, et al. Class Action v. Ohio National</i>
January, 1999	Identified as an insurance liability and damages expert in <i>Arroyo v. Alexander & Alexander</i>
December, 1998	Expert declaration in <i>A&J Liquor, et al. Class Action v. State Compensation Insurance Fund</i>
November, 1998	Identified as an economic expert in <i>Class Action v. Ohio National</i> litigation
October, 1998	Identified as an insurance expert in <i>Morris v. Fremont Life Insurance Company</i>
September, 1998	Expert declaration in <i>Class Action v. State Compensation Insurance Fund</i>
April, 1998	Deposition testimony in <i>Handicomp, Inc. v. United States Golf Association</i>
February, 1998	Rebuttal expert report in <i>Handicomp, Inc. v. United States Golf Association</i> , co-authored with Ronald C. Curhan
February, 1998	Expert declaration in <i>Class Action v. State Compensation Insurance Fund</i>
January, 1993	Expert testimony on the likely economic impact of the merger on the hospital's operating expenses and capital expenditures in FTC administrative hearings, <i>Proposed Merger of Parkview Hospital and St. Mary Corwin Hospital</i> , Pueblo, Colorado.

Bruce Deal, Analysis Group

PROFESSIONAL MEMBERSHIPS

American Economics Association
American Bar Association (non-lawyer member)
Association for Health Services Research

COMMUNITY AND CORPORATE BOARD INVOLVEMENT

Member and Board Chair, Trinity Episcopal Church, Menlo Park, California
Member, Menlo-Atherton High School Foundation for the Future

Matthew Barrett
Analysis Group, Inc., 1010 El Camino Real, Menlo Park, CA 94025, USA
(650) 463-2764

WORK EXPERIENCE

CURRENT **Vice President**, Analysis Group, Inc.

PREVIOUS

Engagment Manager, McKinsey and Company

Diplomat, Ministry of Foreign Affairs and Trade, Wellington, New Zealand

EDUCATION

Stanford University, Stanford, California

Ph.D., Philosophy; M.A., Philosophy

Honors: Asia-Pacific Scholar

Victoria University of Wellington, Wellington, New Zealand

M.A., Philosophy (by research, with Distinction); B.Sc. (Hons), Mathematics (First-Class Honors);
B.A., Philosophy

Honors: Fulbright Scholarship; Alexander Crawford Scholarship; John P Good Math Prize; Sir Robert Stout
Scholarship; French Government Prize; Postgraduate Scholarship; Junior & Senior Scholarships

PUBLICATIONS

"Group Selection, Pluralism, and the Evolution of Altruism"; *Philosophy and Phenomenological Research*, **65**(3), pp. 685-691
(with Peter Godfrey-Smith)

CURRICULUM VITAE

Lynn Huynh, MPH, MBA, DrPH

PART I

PERSONAL DATA

Work address:

Analysis Group, Inc.
111 Huntington Ave. Tenth Floor
Boston, MA 02199
Email: lhuynh@analysisgroup.com
Contact number: (617) 425-8189

EDUCATION

2012	DrPH	Epidemiology Certificate in Vaccine, Science, and Policy Johns Hopkins Bloomberg School of Public Health Department of Epidemiology Baltimore, MD, USA 01/2008 to Present Advisors: Milo Puhan, MD, PhD & Kevin Frick, PhD Thesis: EpiSol Study Simulator 1.0: A Tool to Design Cost-Efficient Epidemiological Studies
2008	MBA	Health economics Johns Hopkins Carey Business School Baltimore, MD, USA 06/2006 to 12/2007 Capstone Coach: Brian Carr Capstone Client: Johns Hopkins Bayview Medical Center Capstone Project: Business Proposal for the Johns Hopkins Cartilage Restoration Center
2008	MPH	Epidemiology & Biostatistics Certificate in Health Finance and Management Johns Hopkins Bloomberg School of Public Health Baltimore, MD, USA 06/2006 to 05/2007 Advisors: Michel Ibrahim, MD, PhD & Eric Seaberg, PhD Capstone Project: Assessment of serological fibrosis biomarkers in participants from the Multi-Center AIDS Cohort Study (MACS)

2003	BA	Chemistry Harvard University Department of Chemistry and Chemical Biology Cambridge, MA, USA 09/1999 to 06/2003 Advisor: Charles Lieber, PhD Graduate mentor: Yi Cui, PhD Thesis: Approaching the Limit: Miniaturization of Silicon Nanowires to 2 nm for Nanotechnology
------	----	--

PROFESSIONAL EXPERIENCE

2012- Present	Associate , Analysis Group, Inc. Address: 111 Huntington Ave. Tenth Floor, Baltimore, MA 02199 Contact #: (617) 425-8189
2009 – 2012	Methodologist , Cochrane Eyes and Vision Group US Project Investigator: Roberta Scherer, PhD Address: 615 N. Wolfe Street, Baltimore, MD 21205 Contact #: (410) 502-4636 <ul style="list-style-type: none">• Review and extract study design information from abstracts of randomized controlled trials presented at the Association for Research in Vision and Ophthalmology from 2007 to 2009.• Compare abstract data with registration report from ClinicalTrials.gov.• Provide methodological support for analysis.• Prepare oral presentation for the Cochrane Colloquium Annual Meeting in Madrid, Spain in 2011.
2011 – 2012	Methodologist , Comparative Effectiveness and Medical Interventions for Primary Open Angle Glaucoma Project Director: Tianjing Li, MD, PhD, MHS Address: 615 N. Wolfe Street, Baltimore, MD 21205 Contact #: 410-502-4630 <ul style="list-style-type: none">• Screen, review, and extract study information on patient characteristics, and strength of association estimates for primary open angle glaucoma.• Assess eligibility of articles and risk of bias for a systematic review.
2009 – 2012	Consultant , Business and Cost Assessment of the ZuziMpilo Project Investigator: Neil Martinson, MD Address: 59 Joubert St. 2 nd Floor, Johannesburg, South Africa <ul style="list-style-type: none">• Examine and review patient medical records and clinic's financial records to answer the question is a fee-for-service HIV clinic a sustainable approach for individuals with HIV living in South Africa.

- Prepare oral presentation to be presented at the American Public Health Association meeting in Washington, DC in 2011.
- 2010 – **Methodologist**, Discrete event simulation (DES) in urgent care setting
2012 Investigator: James Stahl, MD, CM, MPH
Address: 101 Merrimac St. Boston, MA 02114
Contact #: (617) 724 4447
- Develop a simulation model that recreates the system dynamic of a primary care clinic and outpatient clinic using RFID data for the distributions for patient flow, wait time, and resource utilization.
 - Introduce interventions (translators, video conferencing, queue behavior, nurse time, scheduled visits, queuing assets, etc) into the DES model and examine outputs (patient wait time, face time with physicians, etc.).
- 2010 – **Reviewer**, Cost-effectiveness Analysis Registry
2012 Investigator: Paul Neumann, ScD
Address: Tufts Medical Center, 800 Washington Street #063, Boston, MA 02111
Contact #: (617) 636-2526
- Review and extract relevant information from journal articles that provide original cost-utility estimates on methodology, cost-effectiveness ratios, and utility weights.
- 2009 – 2010 **Consultant**, Cost effectiveness of rehabilitation program for patients with chronic obstructive pulmonary disorder (COPD)
Investigator: Milo Puhan, MD, PhD
Address: 615 N. Wolfe Street, Baltimore, MD 21205
Contact #: (443) 287-8777
- Compared the cost of three different treatment options for COPD in the United States, United Kingdom, Canada, Switzerland, Italy, and the Netherlands.
- 2008 **Fellow**, Global Framework Fellowship
Investigator: Vivian Go, PhD
Address: 615 N. Wolfe Street, Baltimore, MD 21205
Contact #: (410) 614-4755
- Identified Dr. Go's research organization mission and goals.
 - Examined individual and group goal clarity.
 - Assessed organization culture.
 - Designed research organization chart and performance management toolkit.
 - Prepared poster presentation at the American Public Health Association meeting.

- 2006 – 2012 **Methodologist**, Multi-Center AIDS Cohort Study (MACS)
Mentor: Eric Seaberg, PhD
Address: 615 N. Wolfe Street, Baltimore, MD 21205
Contact #: (410) 955-4320
- Determine whether the liver-related mortality rate has changed in the Multi-Center AIDS Cohort Study (MACS) since the advent of HAART.
 - Assessed serological fibrosis biomarkers in subjects from the MACS.
 - Evaluated the utility of the biomarkers and their correlation with viral hepatitis infection and the progression of liver disease.
- 2007 **Service Excellence Intern**, Hopkins Bayview Medical Center
Mentor: Gregory Schaffer
- Reviewed Bayview's Visitation Policy.
 - Prepared decision memo and presentation to introduce new Visitation Policy for Bayview.
 - Analyzed Press, Ganey patient satisfaction scores and respondents' demographic information.
 - Provided assistance and support to Service Excellence Specialists.
- 2005 – 2006 **Research Assistant**, Harvard Medical School, Department of Health Care Policy
Investigators: Bruce Landon, MD, MBA and Tom Keegan
Address: 180 Longwood Avenue, Boston, MA 02115-5899
Contact #: (617) 432-4335
- Collected data from community health centers nation-wide for the Health Disparities Collaboratives Project and Cancer Collaboratives Project.
 - Conducted literature review on Incentive Formularies, Costs and Quality of Care, Radiology Utilization Management/Self-Referrals, and Episode Treatment Groups.
 - Interviewed CEOs and Presidents of National Business Coalitions for Value-Based Purchasing project.
 - Designed Indicator Lists for the Cancer Collaborative project.
- 2004 – 2006 **Research Assistant**, Dana-Farber Cancer Institute, Department of Community-Based Research
Investigator: Andrea Gurmankin, PhD
Address: 450 Brookline Avenue Smith SM253, Boston, MA 02215
Contact #: (617) 582-7942
- Designed recruitment efforts for the targeted population (men at risk for prostate cancer).
 - Trained men how to use palm pilot for the study on men's thought about screening for prostate cancer.
 - Provided administrative support to project coordinator.

- 2003 – 2004 **Scholar**, Fulbright Fellowship
Mentors: Hitoshi Murakami, MD, PhD & David Hipgrave, MD, PhD
- Worked with the World Health Organization (WHO) and Program for Advanced Technology in Health (PATH) to assess the Hepatitis B birth dose rate among newborns in both rural and urban districts in Viet Nam.
 - Assisted in the facilitation of focus group discussion to qualitatively evaluate mothers' attitude and opinions toward the implementation of Hepatitis B vaccine to all newborns in Viet Nam.
 - Educated mothers on the importance of vaccines and taking preventive actions against infectious diseases.
- 2001 – 2003 **Research assistant**, Dr. Charles Lieber's Physical Chemistry Research Lab
Investigator: Charles Lieber, PhD
Address: 12 Oxford Street, Room M-008, Cambridge, MA 02138
Contact #: 617-496-3169
- Synthesized small-diameter silicon nanowires (SiNWs) to examine quantum effects.
 - Developed semiconductor nanosensor for real-time rapid detection of biological macromolecules and chemical species.
 - Learned several physical chemistry techniques: photolithography, e-beam lithography, developed PDMS stamp, thermoevaporator, e-beam evaporator, atomic force microscopy (AFM) and scanning electron microscopy (SEM).

PROFESSIONAL ACTIVITY

Professional membership

- International Society for Pharmacoeconomics and Outcomes Research
- International Society for Pharmacoepidemiology
- American Public Health Association
- Society for Clinical Trials
- Society for Medical Decision Making
- US Cochrane Center

Meeting organized

- Dr. David Sackett Visiting Scholar meeting, April 18-20, 2011, Johns Hopkins Bloomberg School of Public Health

EDITORIAL ACTIVITY

Peer review activity

- *Journal of the American Medical Association*

HONORS AND AWARDS

- 2012 *Abraham Lilienfeld Award* recognizes outstanding student in the critical area of applied epidemiology. Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- 2011 *American Public Health Association Medical Care Section Student Presentation Award* recognizes students in public health who have submitted particularly meritorious research which dovetails with the interests and goals of the Medical Care Section of APHA.
- 2011 *Charlotte Silverman Award* recognizes outstanding commitment to public health, policy, and community outreach. Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- 2010 *American Public Health Association Trong Nguyen Memorial Award* recognizes significant leadership contribution in the field of public health, American Public Health Association awarded in Denver, Colorado.
- 2010 *Dorothy and Arthur Samet Award* recognizes outstanding service to the Department and/or community by a Department student. Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- 2010 *Student Assembly Dean Award* recognizes outstanding services to the Hopkins community as Student Assembly President. Johns Hopkins Bloomberg School of Public Health.
- 2008 – 2011 *National Eye Institute Training Grant* provides support and stipends to pre-doctoral students focused on clinical trials.
- 2008 *Global Framework Award* provides support to conduct research in Thai Nguyen, Viet Nam.
- 2006 – 2007 *Hopkins Sommer Scholar Award* develops the next generation of public health leaders. Johns Hopkins Bloomberg School of Public Health.
- 2003 – 2004 *Fulbright Fellowship*, Ho Chi Minh City, Vietnam.
- 2003 *AB Cum Laude*, Harvard College.

PUBLICATION

Peer Reviewed Journal Articles

Mody SH, Huynh L, Zhuo DY, Tran KN, Lefebvre P, Bookhart B. A cost-analysis model for anticoagulant treatment in the hospital setting. *Journal of Medical Economics*. 2014. In Press.

Lefebvre P, Coleman CI, Bookhart BK, Wang ST, Mody SH, Tran KN, Zhuo D, **Huynh L**, Nutescu, EA. Cost-effectiveness of rivaroxaban compared with enoxaparin plus a vitamin K antagonist for the treatment of venous thromboembolism. *Journal of Medical Economics*. 2014;17(1):52-64. doi:10.3111/13696998.2013.858634.

Scherer RW, **Huynh L**, Ervin AM, Taylor J, Dickersin K. ClinicalTrials.gov registration can supplement information in abstracts for systematic reviews: a comparison study. *BMC Med Res Methodol*. 2013;13:79. doi:10.1186/1471-2288-13-79.

Huynh L, McCoy M, Law A, Tran KN, Knuth S, Lefebvre P, Sullivan S, Duh MS. Systematic literature review of the costs of pregnancy in the US. *Pharmacoeconomics*. 2013;31(11):1005-30. doi:10.1007/s40273-013-0096-8.

Grossman, E., Keegan, T., Ly, M., Lessler, A., **Huynh, L.**, O'Malley, J., Guadagnoli, E., & Landon, B. Inside the Health Disparities Collaboratives: A detailed exploration of quality improvement at community health centers. *Medical Care*. 2008; 46: 489-496.

Murakami, H., Nguyen, C., Hipgrave, D., & **Huynh, L.** Operation and Cost of Hepatitis B Vaccine Birth-Dose Provision: A Case Study in Viet Nam. *Vaccine*. 2008; 26 (11): 1411 - 1419.

Wu, Y., Cui, Y, **Huynh, L.**, Barrelet, C. Bell, D. & Lieber, C.M. Controlled Growth and Structures of Molecular-Scale Silicon Nanowires. *Nanoletters*. 2004; 4 (3): 433-436.

Reports

Huynh, L. & Yoon, D. Johns Hopkins Center for Cartilage Restoration Business Plan. Master of Business Administration Capstone, December 2007.

Huynh, L., Seaberg, E., & Thio, C. Assessment of serological fibrosis biomarkers in participants from the Multi-Center AIDS Cohort Study (MACS). Master of Public Health Capstone Project, 2007.

Huynh, L. Qualitative Assessment of the Hepatitis B Birth-Dose in Viet Nam. Fulbright Final Report, 2004.

Murakami, H. & **Huynh, L.** World Health Organization Report Operational and Financial Realities of Hepatitis B Vaccine Birth-Dose Provision in Community: Report of Qualitative Assessment in Viet Nam, 2005.

Huynh, L. Approaching the Limit: Miniaturization of Silicon Nanowires to 2 nm for Nanotechnology. Senior Honor Thesis, 2003.

Cui, Y., Wang, W., **Huynh, L.** & Lieber, C.M. "Ultra Sensitive and Selective Multiplexing Detection of Cancer Markers Using Nanowires Nanosensors."

Paper in preparation

Scherer, R., **Huynh, L.**, Ervin, A., Taylor, J., Dickersin, K. “Outcomes reported in conference abstracts and registered in ClinicalTrials.gov: a comparison study”.

Abstracts

Huynh, L., Limakatso, L., Johns, B. & Martinson, N. “Public-Private Partnership Model: Sustainability of the ZuziMpilo Clinic in Johannesburg, South Africa”. American Public Health Association, 2011.

Huynh, L., Scherer, R., Ervin, A., & Dickersin, K. “Primary outcomes reported in abstracts and ClinicalTrials.gov – do they agree?” Cochrane Colloquium, 2011.

Huynh, L. & Frick, K. “Using the Heckman Model to Impute Indirect Financial Burden for the Surgical Treatments Outcomes Project for Dysfunctional Uterine Bleeding (STOP-DUB)”. Society for Clinical Trials Annual Meeting, 2011.

Huynh, L., Gundlach, A., & Go, V. “Diagnosing Organization Performance: A Case Study in Thai Nguyen, Vietnam.” American Public Health Association, 2010.

Huynh, L. & Frick, K. “Cost effectiveness of hysterectomy compared to endometrial ablation in the Surgical Treatments Outcomes Project for Dysfunctional Uterine Bleeding (STOP-DUB) Trial”. Society for Clinical Trials 30th Annual Meeting, 2009.

Frick, K., **Huynh, L.**, & Clark, M. “Complex Determinants of the Least Costly Way to Design a Study to Detect Differences in QALYs with a Given Power”. Society for Medical Decision Making, 2008.

Murakami, H., Ishida, Y., Tanaka, M., & **Huynh, L.** “Multi-country comparative assessment of avian influenza (H5N1) human cases surveillance in Asian countries.” American Public Health Association, 2008.

Huynh, L., Murakami, H., & Hipgrave, D. “Role of Community Health Workers in Implementing National Immunization Program in Developing Countries.” American Public Health Association, 2008.

Huynh, L., Kuehnle, J., Yi, E., & Yoon, D. “Nursing Shortage, strategy, & implication.” American Public Health Association. 2007.

PART II

TEACHING

MASTER OF PUBLIC HEALTH STUDENT MENTORING PROGRAM

Mentee

Katherine Moon

MPH candidate, 2012

CLASSROOM INSTRUCTION, LECTURER

- 2009 – 2011 **Comparative Effectiveness Research: Outcome Measurement** (2 terms), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health
Lecture given:
- Frequency of follow-up visits

CLASSROOM INSTRUCTION, TEACHING ASSISTANT

Served as teaching assistant for 17 graduate courses (24 terms)

- 2009 – 2011 **Comparative Effectiveness Research: Outcome Measurement** (3 terms), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Prepared and organized lecture notes and assignments.
 - Presented lecture on frequency of follow-ups.
- 2011 **Summer Institute: Data Analysis I & II Workshops** (1 term), Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health.
- Attended classes, answer students' questions, and grade in-class exercises.
- 2011 **Professional Epidemiology I** (1 term), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Attended classes and weekly instructors' meetings.
 - Led lab discussions.
 - Held office hours.
 - Graded assignments.
- 2011 – 2012 **Winter Institute: Data Analysis I & II Workshops** (2 terms), Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health.
- Attended classes.
 - Answered students' questions.
 - Graded in-class exercises.
- 2011 **Winter Institute Epidemiology Workshop: Interpreting and Using Epidemiologic Evidence** (1 term), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Attended instructors' meeting and classes.
 - Prepared lab questions.
 - Led lab discussion.
 - Graded lab and final assignments.

- 2010 **Applications of Case-Control Study** (1 term), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Attended classes.
 - Headed lab discussions.
 - Developed final exam.
- 2010 **Pharmacoepidemiology** (1 term), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Attended classes, monitored course website, and developed final exam.
- 2008 – 2010 **Understanding Cost-Effectiveness** (2 terms), Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health.
- Assisted with online discussion.
 - Answered student's question.
 - Graded assignments.
- 2009 - 2010 **Epidemiologic Methods 2 & 3** (2 terms), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Attended classes, conducted lab discussions, and graded assignments and exams.
- 2008 – 2010 **Statistical Methods in Public Health I-IV** (5 terms), Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health.
- Led eight lab discussions and eight STATA labs.
 - Graded problem sets and exams.
 - Assisted students with their statistical project.
- 2008 **Health Care Epidemiology** (1 term), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Modified past assignments and projects.
 - Graded student assignments and projects.
 - Answered questions and concerns related to the course.
- 2008 -- 2010 **Principles of Epidemiology** (2 terms), Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health.
- Answered students' questions.
 - Held office hours.
 - Attended classes.
 - Led lab discussion.
 - Graded assignments.
 - Proctored exam.

- 2007 – 2008 **Fundamentals of Budgeting and Financial Management** (2 terms), Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health.
- Attended lectures, held office hours, oversaw course curriculum, and answered questions and concerns students may have on finance and management.

ACADEMIC SERVICE

- 2009 – 2011 ***President-elect, President, & Ex-officio, Student Assembly***, Johns Hopkins Bloomberg School of Public Health.
- Led executive committee meetings.
 - Represented on behalf of Student Assembly to University, local, state, national, and international agencies and organizations.
 - Provided support and assistance to team of 34 members.
 - Delegated tasks to members.
 - Served as the channel of communication between administrators and over 2,000 students at the school.
- 2010 – 2011 ***Service Chair, Epidemiology Student Organization (ESO) STARS***, Johns Hopkins Bloomberg School of Public Health.
- Developed public health curriculum for local high school and recruited graduate students to teach public health and epidemiology to high school students.
- 2009 – 2012 ***DrPH Student Representative, DrPH Executive Committee***, Johns Hopkins Bloomberg School of Public Health.
- Represented and advocated students' interests.
- 2010 – 2011 ***Student Leader, DrPH Student Network***, Johns Hopkins Bloomberg School of Public Health.
- Created platform for students to exchange ideas, network, and gain competency skills in informal settings.
- 2010 – 2011 ***Co-Founder, Vice-President, Application and Methods of Bayesian statistics in Epidemiologic Research (AMBER)***, Johns Hopkins Bloomberg School of Public Health.
- Developed mission and application proposal.
 - Assisted in conducting bi-monthly meetings.
- 2009 – 2010 ***Captain, Intramural volleyball***, Johns Hopkins Bloomberg School of Public Health.
- Organized and managed Epidemiology intramural volleyball team, the Confounder
- 2008 – 2009 ***Coordinator, Clinical Trials and Systematic Reviews Journal Club***,

Johns Hopkins Bloomberg School of Public Health.

- Organized journal club meetings.
- Coordinated with students to present relevant articles.

COMMUNITY SERVICE

- | | |
|--------------------|--|
| 2002 --
Present | <i>Co-Founder, President, VietHope, Inc.</i> 501(c)(3) non-profit corporation. <ul style="list-style-type: none">• Assist children in Viet Nam to grow with an opportunity to reach his/her full potential through the Scholarship Program.• Provide financial assistance to over 5,000 children living in poor rural areas in Viet Nam who cannot afford the cost of continuing an education within the financial limits of their family.• Oversee VietHope's educational projects (construction of elementary school, libraries, and computer rooms). |
| 2001 – 2004 | <i>Director, Hepatitis B Prevention and Education in Boston Initiative (H.B.I.).</i> <ul style="list-style-type: none">• Promoted higher awareness for Hepatitis B vaccinations to Asian immigrants in the Greater Boston community.• Organized and managed two clinics in Chinatown and Malden.• Performed outreach activities in Chinatown, Boston. |

PRESENTATION

Scientific Meetings (see also published abstracts)

Oral

- **Huynh, L.**, Limakatso, L., Johns, B. & Martinson, N. "Public-Private Partnership Model: Sustainability of the ZuziMpilo Clinic in Johannesburg, South Africa". American Public Health Association. Washington, DC, 2011.
- **Huynh, L.**, Scherer, R., Ervin, A., & Dickersin, K. "Primary outcomes reported in abstracts and ClinicalTrials.gov – do they agree?" Cochrane Colloquium. Madrid, Spain, 2011.
- Murakami, H., Ishida, Y., Tanaka, M., & **Huynh, L.** "Multi-country comparative assessment of avian influenza (H5N1) human cases surveillance in Asian countries." American Public Health Association, 2008.
- **Huynh, L.**, Kuehnle, J., Yi, E., & Yoon, D. "Nursing Shortage, strategy, & implication." American Public Health Association, 2007.

Poster

- **Huynh, L.** & Frick, K. “Using the Heckman Model to Impute Indirect Financial Burden for the Surgical Treatments Outcomes Project for Dysfunctional Uterine Bleeding (STOP-DUB)”. Society for Clinical Trials Annual Meeting, 2011.
- **Huynh, L.,** Gundlach, A., & Go, V. “Diagnosing Organization Performance: A Case Study in Thai Nguyen, Viet Nam.” American Public Health Association, 2010.
- **Huynh, L.** & Frick, K. “Cost effectiveness of hysterectomy compared to endometrial ablation in the Surgical Treatments Outcomes Project for Dysfunctional Uterine Bleeding (STOP-DUB) Trial”. Society for Clinical Trials 30th Annual Meeting, 2009.
- **Huynh, L.,** Murakami, H., & Hipgrave, D. Role of the Community Health Workers in the Delivery of the Hepatitis B Vaccine in Vietnam. American Public Health Association, 2008.
- Frick, K., **Huynh, L.,** & Clark, M. “Complex Determinants of the Least Costly Way to Design a Study to Detect Differences in QALYs with a Given Power”. Society for Medical Decision Making, 2008.
- **Huynh, L.,** Murakami, H., & Hipgrave, D. “Role of Community Health Workers in Implementing National Immunization Program in Developing Countries.” American Public Health Association, 2008.

INVITED SEMINAR AND PRESENTATION

- | | |
|------|---|
| 2012 | <i>Presentation for FDA Public Hearing Modernizing the Regulation of Clinical Trials and Approaches to Good Clinical Practice</i> , Presented at the Food and Drug Administration, April 2012. |
| 2011 | <i>Application of Discrete Event Simulation (DES) in Urgent Care Setting using Radio-Frequency Identification (RFID) Data</i> , Presented at the Department of Epidemiology, MOS-DEF seminar, Johns Hopkins Bloomberg School of Public Health. April, 2011. |
| 2010 | <i>Introduction to Discrete Event Simulation</i> , Presented at the Department of Health, Policy & Management, Modelling Seminar, Johns Hopkins Bloomberg School of Public Health. March, 2010. |
| 2009 | <i>Simulation to Guide Efficient Clinical Trials Design to Detect Differences in Health-related Quality of Life</i> , Presented at the Department of Epidemiology, Doctoral seminar, Johns Hopkins Bloomberg School of Public Health. August, 2009. |

ADDITIONAL INFORMATION

Computer skill:

Stata, SAS, R, Arena (Rockwell Automation), MySQL, TreeAge.

Language skill:

Fluent in Vietnamese. Knowledge of Spanish, French, Latin and Greek.

Statement of research interest:

My research focuses on developing discrete event simulation methods that epidemiologists can implement in their research setting to design cost-efficient studies examining patient-reported outcomes without compromising power and study characteristics. The applied methods help investigators to explicitly consider different design parameters and investigate how these decisions influence the study characteristics. Thereby, the applied methods may help to reduce the multi-dimensionality of decisions in making complex trade-offs.

Keyword

Randomized controlled clinical trial, epidemiology, biostatistics, systematic review, adaptive design, Bayesian method, discrete event simulation, evidence-based health care, cost-effectiveness, cost-utility, cost-efficiency, cost function.

KIMBERLY SHORES, FSA, MAAA

Vice President

Consulting Actuary, Kansas City Office

Prior Positions

2005-2013: Coventry Health Care, Director of Actuarial Services

2001-2005: Lewis and Ellis, Sr. Actuarial Consultant

2000-2000 Business Men's Assurance, Actuarial Student

1997-2000: Americo Life, Actuarial Student

Responsibilities and Experience

- Reserving / IBNR
- Annual Statement Opinion
- Commercial group pricing and rate adequacy
- Individual medical pricing and rate adequacy
- Provider contracting analysis
- Trend analysis
- Financial forecasting (Group & Individual)
- Budget support
- Medical expense / Medical economics research
- Additional pricing analysis: Area factors, age/gender studies, SIC studies, benefit slope, etc.
- Experience studies
- Competitive rate studies
- Rate filings and certifications

Education

William Jewell College – Liberty, Missouri

B.A., Mathematics and Chemistry

Professional

Fellow, Society of Actuaries

Member, American Academy of Actuaries